The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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No. 2358.—VOL. L. LONDON, SATURDAY, OCTOBER 30, 1880. [WITH SUPPLEMENT.] PRICE ..... SIXPENCE. PER ANNUM, BY POST £1 4s.

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von Con , £12.	30 Marke Valley, £2.	20 South Darren, £2 12 6
st Crebor.	20 North D'Eresby, 20s.	25 So.E. Wynaad, £1 7s 6
st Caradon, £2.	30 Nouveau Monde, £1	50 S. Penstruthal, 11s 3d
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st Van, £2¾.	20 Pandora, 13s. 9d.	10 Tankerville, £3.
agstaff, £1 10s.	20 Pen-yr-Orsedd.	40 West Phœnix, £2.
ontino.	50 Port Phillip, 10s.	30 Wheal Crebor.
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onsolidated, 9s. 6d.	150 Glenroy, 12s. 6d.	15 Roman Gravels, £9½
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hontales, 5s. 3d.	50 Hingston, 29s.	20 Ruby, £6¼.
erwent, £2½.	100 Indian Glenrock, 26s 3	100 S. East Wynaad, 27s 6
on Pedro, 16s.	100 Javali, 6s.	75 South Indian, 33s. 9d.
olcoath.	40 Leadhills, £2½.	50 San Pedro, 13s. 9d.
ast Caradon, 38s. 9d.	50 Marke Valley, 32s. 6d.	5 Tincroft.
ast Crebor.	25 Mellanear, £5¼.	10 Van, £18¾.
berhardt, £2½.	100 New West Caradon.	60 Wh. Jewell, 14s. 6d.
nglish-Austra. Gold, 19s. 3d.	50 No. Herodsfoot, 11s.	50 West Caradon, £1⅝.
	25 New Quebrada.	10 Wh. Grenville, £10¼.
ast Pool.	100 Nouveau Monde, 22s.	5 Wheal Peevor.
mma, £3¾.	50 New Peevor.	5 Wheal Kitty.
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30 Carnarvon, 18s. 6d.	25 Glenrock Gold, £1 7 6	10 Richmond, £15½.
20 Colorado, £2¼.	25 Hingston, £1 6s. 3d.	50 So. E. Wynaad, £1 8 9
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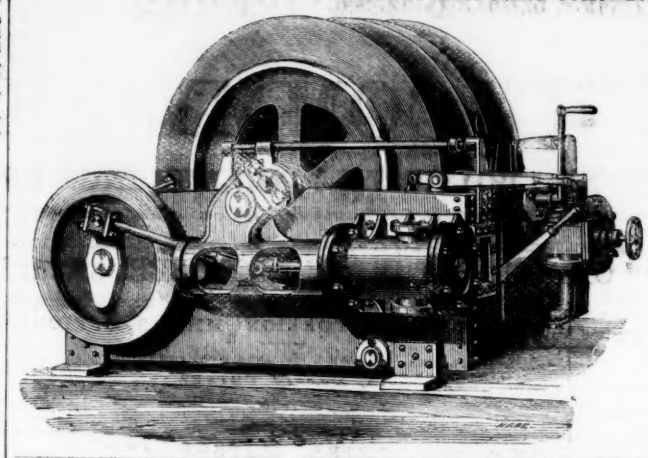

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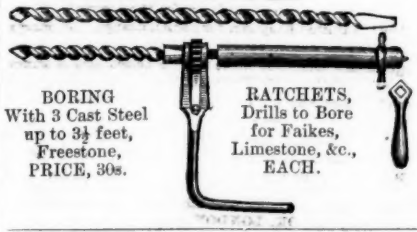

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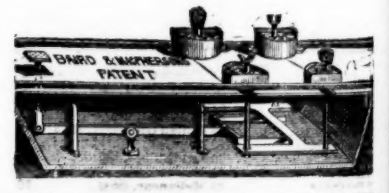

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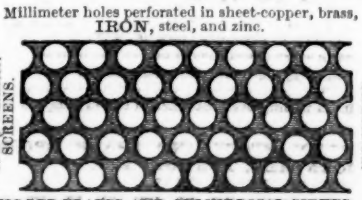

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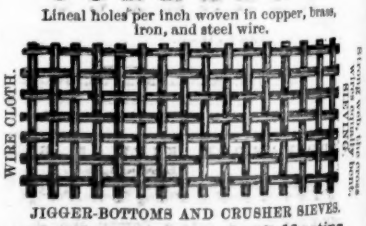

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PROSPECTUS.

This company has been formed to purchase and work with approved modern appliances, the extensive and well-known tin and copper mines, situate in the parish of Whitchurch, about one mile from Tavistock, in the county of Devon, called respectively Anderton and Rix Hill; and having regard to the great rise in tin and copper which has taken place during the last few months and the present favourable state of the market, this company should be a great success, and at once command the confidence of the public.

The two setts, Anderton and Rix Hill, adjoin each other, extending to about three-quarters of a mile on the course of the lode and half-a mile from north to south, and occupy one of the best channels of mining ground in the county. These properties are possessed of unusual advantages in respect of good roads, close proximity to Tavistock town and railway station, and abundance of water, having at the eastern portion of the setts streams of water adequate for all dressing purposes.

There are three known rich tin lodes which run nearly east and west through Anderton and Rix Hill, and the copper lodes running parallel to the former, which run through East Wheal Crebor, and are a continuation of those extensively worked in the Old Crowndale Mine, and have produced copper ore of the richest quality, for many years paying very handsome dividends. There are four distinct shafts in the Anderton and Rix Hill Mines, in addition to one on the north lode, and the levels driven from them. A splendid lode, yielding good rich work for tin has very recently been driven on, and quite recently a strong and large lode has been discovered in the northern portion of Anderton, which is entire and likely to yield most profitable results.

The lodes which have been opened are from 1 to 6 ft. wide, and are reported by competent surveyors to contain from 150 lbs. to 5 cwts. to the ton of lode stuff. Very considerable quantities of tin are laid open ready to come away, and large profits on working are confidently looked for.

The property is situated upon lodes running parallel to that on which is the Devon Great Consols Mine, and the recent drivings in the Wheal Crebor (only a few fathoms from the East Crowndale), have been valued at 120*l.* per fathom, and the lode at Rix Hill at 5 cwts. of tin to the ton of lode stuff.

The Anderton Mine contains a strong cross-course, which has yielded lead of a very rich quality, and which has not yet been developed, but which, if developed by the company, will yield large additional profits.

The mines have been thoroughly inspected and reported upon by some of the leading mine agents of Cornwall and Devonshire, amongst them being Mr. W. Andrewartha, mineral surveyor to Sir Massey Lopez, Bart., Capts. J. Goldsworthy, R. Unsworth, W. Metherell, R. Jackson, and others; extracts from whose reports can be seen at the offices of the company. Three of the directors (Mr. Duncan, Mr. Gibson, and Mr. Crassweller) have had a large experience in the working of mines.

In addition thereto, full investigation has recently been made by Mr. R. Waters, a mining surveyor, whose report also accompanies this prospectus. He spent some days at the mines, and recommended certain extension of ground in the lease, which recommendation has been carried out, and the sett now embraces a course along the lode of great length, thus greatly enhancing the value of the property, and making it one of the most extensive, and it is believed by the directors to be one of the most valuable in the whole of the great tin and copper districts of Cornwall and Devonshire.

Another important and favourable feature for the success of the company is that they have secured the services of Capt. Henry Treganowan, a confidential mining agent of large repute, and who has long worked under the direction of Mr. Josiah Thomas, well known in the mining world.

The setts are held as follows, as to part thereof, from the Right Hon. the Earl of Devon, for a term of 21 years, at 1-20 dues for all minerals, and as to the other part thereof, from Mr. J. R. Willcock, for a term of 21 years, from the 26th of July, 1871, at 1-24th for all minerals, and after paying profits 1-20th free from water charges.

The contract for the purchase of the setts bear date the 21st of October, 1880, and is made and entered into between James Murray and Jacob Legassick, the vendors of the one part, and William Henry Charlton, as trustee for the East Crowndale Mining Company (Limited) of the other part, whereby the property, with certain machinery thereon, is secured to the company, for the sum of £3000 in cash, and 2000 fully-paid shares in the company.

The entire expense of the formation and registration of the company, inclusive of law charges, have been limited to the moderate sum of £200.

Prospectuses and Forms of Application for Shares, together with copies of the reports, may be obtained from the bankers, brokers, and at the office of the company, where plans of the mine and specimens of the ore may be seen. The contract for purchase, as well as the Articles of Association and Agreements, lie for inspection at the office of A. J. MONDAY, Esq., the company's solicitor.

ROTARY ENGINES AND PUMPS.

The theoretical advantage of the rotary system for engines and pumps has long been recognised, but slight practical difficulties have always prevented its general adoption. The apparatus invented by Mr. AUGUSTE MORIN, of Grenoble, Isère, is intended to remove these difficulties, and consists of a hollow cylinder within which rotates an eccentric disc formed with two open-ended slots or recesses in which are placed two rollers, and of a shaft or axis which transmits the motion to the exterior by passing through one or two stuffing boxes. Two channels or ways placed symmetrically on each side of the point of contact of the disc with the cylinder serve as inlet and outlet for the fluid under pressure. The disc is in perfect contact with the cylinder throughout the entire surface, separating the two channels or ways. This portion of the cylinder is hollowed for this purpose. The flat ends of the cylinder are also in perfect contact with the plane face of the disc and of the rollers. This combination constitutes a rotary engine, the direction of rotation of which will vary according as the introduction of the fluid shall take place by the one or the other of the channels. The principal advantage and novelty of this apparatus consists in the complete liberty allowed to the rollers, which the pressure of the fluid holds pressed on one side against the plane face of the slot or opening in the disc and another part against the cylindrical interior surface; the weight of the rollers and their centrifugal force further add to the pressure to ensure their contact with the cylinder. There is thus obtained without mechanical movements, without springs, and without accessories a perfect tightness. The absence of friction permits great speed to be attained without inconvenience and with considerably less loss of power than the arrangements heretofore proposed.

The expansion of the steam can be utilised by placing in succession on the same shaft, or upon independent shafts, two or more of these apparatus, the second and following ones of which will be of increased dimensions compared with the preceding ones, the smaller receiving the steam directly from the generator, and each of the following ones being driven by the steam escaping from that which precedes it. In its application as a pump, in order to give the liquids larger and more regular sections, there can be arranged three rollers in place of two, and the channels or ways may be widened and caused to enter the cylinder lower down than those of the arrangement just described. In the case of a condenser the air pump can be of the same system, and keyed directly upon the motive shaft. All kinds of condensers can be employed. The change of direction can be obtained very simply in simple or compound engines by the play of a slide-valve or of a cock operated by hand, and which can at will admit the steam by the right or left orifice, the escape taking place by the other. In compound engines there is a special cock for each engine, but these cocks are simultaneously operated by a single shaft or rod. Lastly, the expansive force of steam can be utilised either in simple engines or in the first cylinder of compound engines by means of a cam of appropriate form acting upon a valve which cuts off at the desired time the entry of the steam into the cylinder; this cutting off will take place twice for each rotation in symmetrical positions, determined by the degree of expansion desired.

PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Messrs. ABBOTT and WICKETT, stock and share brokers, Redruth (Oct. 28), write:—The market during the past week has had a downward tendency, and most good shares have been freely sold at low rates. This morning a better feeling is prevalent, and a reaction has taken place, and buyers are more plentiful than sellers. Subjoined are the closing prices:—Blue Hills, 4 to 4¼; Carn Brea, 82 to 83; Cook's Kitchen, 11 to 11⅛; Dolcoath, 56 to 56½; East Pool, 36¼ to 36⅝; Mellanear, 5 to 5⅛; New Cook's Kitchen, 7 to 7⅛; North Busy, 2⅛ to 2⅝; Pedn-an-drea, 1⅝ to 1⅞; Pendarves United, 8 to 9; Santa Gertrude, 175 to 180; South Caradon, 60 to 65; South Condurrow, 10¾ to 11; South Crofty, 9 to 11; South Frances, 12 to 12½; Tincroft, 16 to 16¼; West Basset, 16 to 16½; West Peevor, 15½ to 16; West Frances, 10 to 11; West Tolgus, 50 to 52; West Seton, 17 to 19; Wheal Agar, 5½ to 6; Wheal Basset, 4 to 4¼; Wheal Grenville, 10 to 10½; Wheal Kitty, 4½ to 5; Wheal Peevor, 28 to 29; Wheal Prussia, 1¾ to 2; Wheal Uny, 2⅞ to 3.

— Mr. S. J. DAVEY, mine sharedealer, Redruth (Oct. 28), writes:—Our market during the earlier and greater part of the week has been dull, and prices experienced a sharp fall, but to-day the tone of the market is much improved, and prices have recovered from the lowest points. Dolcoath shares fell 30s., East Pool 30s., South Frances 50s., West Basset 20s., West Peevor 30s., and Wheal Peevor shares 20s. The following are to-day prices:—Blue Hills, 3¾ to 4; Carn Brea, 82½ to 85; Cook's Kitchen, 11 to 11⅛; Dolcoath, 56 to 57; East Pool, 36 to 37; Mellanear, 4¾ to 5; New Cook's Kitchen, 7 to 7⅛; North Busy, 2⅜ to 2⅝; Pendarves United, 7½ to 8; Penhalls, 1¾ to 2; Pedn-an-drea, 1⅝ to 1⅞; South Condurrow, 10¾ to 11¼; South Crofty, 10½ to 11⅛; South Frances, 12⅜ to 12⅞; Tincroft, 16 to 16½; West Basset, 16 to 16½; West Frances, 10⅛ to 10¾; West Kitty, 2 to 2½; West Peevor, 15½ to 16; West Poldice, 2¼ to 2½; West Tolgus, 50 to 52; West Seton, 17 to 19; Wheal Agar, 5⅛ to 6; Wheal Basset, 4 to 4⅛; Wheal Comford, 3¼ to 3¾; Wheal Grenville, 10 to 10½; Wheal Jane, ¾ to 1¼; Wheal Peevor, 27½ to 28½; Wheal Kitty, 4½ to 5; Wheal Prussia, 1⅝ to 1⅞; Wheal Sisters, 1¾ to 2¼; Wheal Uny, 2¾ to 3.

— Mr. J. H. REYNOLDS, stock and share broker, Redruth (Oct. 28), writes:—During the week a large number of East Pool shares have been thrown on the market. This, coupled with the lower price for tin, caused other shares to give way as well, but a rather better feeling prevails to-day, and all the leading shares close at an advance. The following are the closing quotations:—Blue Hills, 3¾ to 4; Carn Brea, 82 to 84; Cook's Kitchen, 11 to 11¼; Dolcoath, 56 to 56½; East Caradon, 1½ to 2; East Pool, 36 to 36½; Gunnislake (Clitters), 3¾ to 4¼; Herodsfoot, 1 to 1½; Levant, 4 to 6; Marke Valley, 1¾ to 2; Mellanear, 4¾ to 5¼; New Cook's Kitchen, 7 to 7⅛; North Busy, 2⅜ to 2½; North Herodsfoot, 10s. to 12s. 6d.; North Levant, 5 to 6; North Penstruthal, 1¼ to 1½; Pedn-an-drea, 32s. 6d. to 35s.; Pendarves United, 7½ to 8⅛; Phœnix, 3¼ to 3½; Penhalls, 2 to 2¼; South Caradon, 60 to 65; South Condurrow, 10¾ to 11¼; South Crofty, 10 to 11; South Frances, 12½ to 13; Tincroft, 16 to 16½; West Basset, 16¼ to 16¾; West Chiverton, ¾ to 1; West Frances, 10 to 11; West Kitty, 2¼ to 2½; West Peevor, 15 to 15½; West Poldice, 2½ to 2¾; West Seton, 17½ to 20; West Tolgus, 50 to 52½; Wheal Agar, 5½ to 6; Wheal Basset, 4 to 4½; Wheal Crebor, 4½ to 5; Wheal Comford, 3½ to 3¾; Wheal Grenville, 10 to 10½; Wheal Jane, 15s. to 20s.; Wheal Jewell, 12s. 6d. to 15s.; Wheal Kitty, 4¾ to 5; Wheal Peevor, 27¾ to 28¼; Wheal Prussia, 32s. 6d. to 35s.; Wheal Uny, 2¾ to 3.

— Mr. JOHN CARTER, mine sharedealer, Camborne (Oct. 26), writes:—The share market has been quiet, and prices declined on heavy realisations. Stock has, however, been well taken off the market, and a decidly better tone prevails to-day, with a good demand for most shares at a sharp recovery. Dolcoath shares declined to 55¼, closing buyers at 56¼. East Pool shares fell to 35¾, closing buyers at 36½. South Frances shares declined to 12¾, and buyers at 12½. Carn Brea shares fell to 81½, now buying at 83. West Basset shares declined from 17¼ to 16, Cook's Kitchen to 11, sellers, and South Crofty to 10½. There is no change in the tin standards. Subjoined are the closing prices:—Blue Hills, 3¼ to 4; Carn Brea, 82½ to 83½; Cook's Kitchen, 10¾ to 11; Dolcoath, 56 to 56¾; East Caradon, 1½ to 1¾; East Pool, 36¼ to 36¾; Mellanear, 4½ to 5; New Cook's Kitchen, 7 to 7½; North Busy, 2⅜ to 2⅝; Pendarves United, 7 to 8; Penhalls, 1¾ to 2; Phœnix 3 to 3¼; Pedn an-drea, 32s. 6d. to 35s.; South Caradon, 55 to 60; South Condurrow, 11 to 11¼; South Crofty, 10 to 11; South Frances, 12½ to 112¾; Tincroft, 16¼ to 16¾; West Basset, 16 to 16¼; West Frances, 10 to 11; West Peevor, 15 to 16; West Poldice, 2½ to 2¾; West Tolgus, 50 to 52; West Seton, 18 to 20; Wheal Agar, 5½ to 5¾; Wheal Basset, 4 to 4¼; Wheal Grenville, 10 to 10½; Wheal Jane, 15s. to 17s. 6d.; Wheal Peevor, 28 to 28½; Wheal Kitty, 4¾ to 5; Wheal Prussia, 1⅝ to 1⅞; Wheal Uny, 2¾ to 2⅞.

— Mr. M. W. BAWDEN, Liskeard (Oct. 28), writes:—The mining market continued firm until the opening of the week, since then, in consequence of tin becoming easier, prices have slightly receded, and the market closed weaker, in conjunction with a preparation for settlement. Subjoined are the closing prices:—Bedford United, ¾ to ⅞; Carn Brea, 81 to 82; Gunnislake (Clitters), 3¾ to 4; Cook's Kitchen, 11 to 11¼; Dolcoath, 55 to 56; Drake Walls, 1¾ to 2; Devon Consols, 11 to 11⅛; Devon United, 1¾ to 2; East Caradon, 1¾ to 2; East Crebor, 1½ to 1⅝; East Pool, 35 to 36; Gawton United, 1 to 1⅛; Glasgow Caradon, 1⅛ to 1¼; Herodsfoot, 1 to 1⅛; Hingston Down, 1¼ to 1⅜; Marke Valley, 1⅞ to 2; New West Caradon, 1 to 1⅛; North Herodsfoot, ⅝ to ¾; Old Gunnislake, ⅛ to ⅝; Phœnix United, 3¼ to 3½; Prince of Wales, 1 to 1⅛; South Caradon, 60 to 62½; South Crebor, ¾ to 1; South Crofty, 10½ to 11; South Frances, 12 to 12⅛; Tincroft, 15½ to 16; West Basset, 16 to 16½; West Crebor, ⅜ to ½; West Frances, 10 to 10¼; West Mary Ann, 1 to 1¼; West Phœnix, 2 to 2¼; West Tolgus, 50 to 51; Wheal Agar, 6¼ to 6½; Wheal Crebor, 4¼ to 4½; Wheal Kitty, 4¾ to 5; Wheal Jane, ⅝ to ¾; Wheal Peevor, 27 to 27½; Wheal Hony and Trelawny, 2 to 2½; Wheal Uny, 2⅞ to 3.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street (Oct. 28), write:—Hardly so much business is reported for this week as was the case for the previous one—at any rate, as regards securities other than rails. In these the values have continued to rise, and the differences in quotation, compared with "making up" prices at last settlement, are in some cases remarkable. The continued cheapness of money, which shows no likelihood of any hardening movement in the immediate future, has no doubt contributed to a large extent to the unbroken advance marked in the heavy speculative stocks, and whilst the business of the country fails to absorb any more capital it seems likely unless foreign markets change to our advantage that money will remain easy—at any rate, till the turn of the year, when it is probable that operations may be undertaken which will employ capital in industrial pursuits, and we may then look for a somewhat harder money market, and consequent restriction of facilities for heavy speculation. The markets generally have been far from flat, however, and the alterations of prices show advances in the great majority, and in some instances very noteworthy, whilst where declines are marked there are none of any moment.

BANKS have been dealt in to only a moderate extent, but the prices obtained are fully up to the best figures lately quoted. The alterations are all for the better, and are as follows:—Bank of Liverpool, ⅝; National Provincial, ½; ditto (new), ½; Parr's, ¼; Union Bank of Manchester, ½; and Consolidated, 1/16.

INSURANCE shares have not attracted much attention. The only case in which more than solitary transactions have taken place is Lancashire; these have been done a few times at top mark. Thames and Mersey have changed hands once at 12, are slightly easier since. With the exception of a rise of ½ in Ocean Marine, the changes are adverse; they are Royal Liverpool ¼, Sea ⅛, Liverpool and London, and Globe, Maritime, and Thames and Mersey Marine 1/16 each lower.

COAL, IRON, AND MINING.—On Monday last this market ruled brisk, but since then transactions (excepting in Bolckow aod Ebbw Vale, both of which have changed hands repeatedly, but at rather lower rates) have been very few. The variations are numerous, however, and though in Bolckows to-day's prices are not the best, they, in common with many other in this class, show substantially improved figures. The following are higher:—Sheepbridge, 7½; John Browns, 4½ (this rise has occurred during the last two or three days, having been put up about 3 to-day); Cammells, 2½; Parkgate, 3; Consett, 1¾; Bilbao Iron Ore, ¾; Bolckows (fully-paid), ¾; Chillington ⅜; and a few others fractionally better.—Lower: Tredegar, A, 1; Palmer's Shipbuilding, ¼.

COTTON SPINNING AND MANUFACTURING, consequent apparently on an easier condition of the cotton market, are hardly so strong in tone as they were a week ago, but figures do not rule much lower generally. A fair portion of the demand of late has been of a speculative character (though not anything like so much as in times past), and we may, we think, attribute the slight ease to a little realisation of profits, and when these are cleared off a return to hardness seems probable, unless the market takes an unexpected adverse turn.

TELEGRAPHS show only a few dealings. In the case of Western and Brazilian the prices obtained have slightly advanced, but Anglo's have changed hands at declining prices. If rumours respecting Anglo's had much credence given to them it seems probable they would recede more rapidly.——CANALS neglected, but figures maintained, the only change being an advance of 1/16 in Bridgewater Navigation.——CORPORATION STOCK AND ANNUITIES continue to quote full rates, but there is little doing. Manchester Corporation Stock has been dealt in twice at 108, others not touched.——MISCELLANEOUS show very few dealings. Manchester Carriage and Tramways are 5/16, and Southport Pavilion and Winter Gardens ⅛ better, whilst Southport Trams are ¼, Southport Victoria Hotel ⅛, and Southport Botanical Gardens ¼ lower.

RAILWAYS.—Since we last reported a favourable development has occurred in the value of almost all railways. Scotch stocks have been prominent in the advance, while the heavy leading lines have quickly followed. As remarked above, cheap money has contributed to assist the large speculative buying, and this improvement has consequently helped considerably the securities of most stocks. The large increased traffic of the North-Eastern Company has brought about a rise of 5½. Great Northern, A, also came in for a sharp improvement, but their traffic was disappointing, which induced numerous realisations, and a consequent decline. Brighton, A, have suffered heavily from the selling of the syndicate that placed them so high, and all sorts of rumours are afloat as to their value, and what they are going to. Grand Trunk descriptions have advanced during the week, and although to-day's meeting is reported satisfactory highest prices have not been maintained. Great Western of Canada are now about the same price as last week with the dividend off. In Americans the chief attraction has been Philadelphia and Reading ordinary shares, which after being up to 24 have drooped to 22, 22¼, and the General Mortgage, 1874 issue, which were at 86½,

now stand 83½ to 82¾, or 2½ weaker. Pensylvanias show no material alteration, while they quote 1 higher.

HULL.—Mr. W. FOWLER SUTTON, stock and share broker, St. Mary's Chambers (Oct. 28), writes:—The railway markets have been very firm this week, and, excepting Bertha, every stock shows a considerable and in some cases important, advance. North-Easterns are no less than 7 per cent. higher on the week, and others 2 to 3 per cent. Berthas show no rally—rather an unnatural circumstance after so heavy a fall—and are disposed to heaviness even at their present price. When the tide turns it will, most probably, do so very sharply, as—taking the most unfavourable estimate of dividends on the market (7 per cent.)—the stock now stands at a 5 per cent. price, plus the dividends, and is by far the cheapest stock in the list. Canadian stocks are firm, on another surpassing Trunk traffic. A reference back so far as 1874 fails to show an aggregate equal to that received today. American stocks very firm, especially Atlantic Firsts, which are to-day $2 higher. Local stocks firm, but quiet; there is, however, more business doing. We quote—Hull Bank, 11¾; London and Yorkshire, 23½; Hull Dock, 87; Hull Tram, 10; Earle's Shipbuilding, 18¼.

NEWCASTLE-ON-TYNE STOCK EXCHANGE.—Messrs. SPENCE and IRWIN, stock and share brokers, Grey-street (Oct. 28), write:—Steadiness has been the characteristic of our market this week, and, with two exceptions, all local shares are higher. Bede Metal shares remain at 2 to 1 dis. Bolckow, Vaughan, and Co. having been successful with their experiments of converting Cleveland ore into steel by the Thomas-Gilchrist process, their shares have improved in value, and although not leaving off at the best, are quoted 28¾ to 29 for A, 4½ to 4¾ prem. for B, and 20 to 20½ for 5 per cent. preference shares. In Consett Iron Company's shares the improvement mentioned last week has been maintained this week, business having been done at 15 prem., at which price they are now offered, whilst 14¼ prem. is bid. For Consett Spanish ore shares 29s. 6d. is bid, whilst there are sellers at 30s. Darlington Iron Company and John Abbot and Co. are the only two local companies whose shares have receded in value this week. The former are offered at 12 dis., and the latter at 30 dis., whilst 35 is bid. Palmer's Shipbuilding and Iron Companies B shares are in good demand, at 8¾ and 8½ dis., whilst there are no sellers under 6½ dis. The A shares are quiet, at 23. Skerne Iron, Teeside Iron and Engine Works, and West Cumberland Iron and Steel shares are all quiet, at old prices. Crook Burn Mine, Dubby Syke Mine, Harwood Mine, and Hexham and Edmondbyres Mine shares are all offered without tempting buyers. For Green Hurth Mine shares 8½ prem. is bid, without finding acceptors. For Teesdale Mine shares the demand still continues exceedingly good, with no sellers.

CHESTER.—Mr. FRANCIS FRANCIS, stock and share broker, Corn Exchange Chambers (Oct. 28), writes:—Considerable enquiry is going on for the local mining shares connected with the Halkyn District Drainage scheme, and the often anticipated success resulting from the development of the new lodes at Rhosesmor, both Dixon's and Westminster, is attracting an unusual amount of attention to the district. The Westminster lode is opening out exceedingly rich, and no doubt large returns will now be made to the advantage of drainage as well as the mine shareholders. A new lode is reported cut in the eastern shaft on Rhydalun, and in a short time its characteristics can be reported on. Other works on this property are reported to be progressing satisfactorily. North Hendre is looking well. Good progress is reported from Pen-yr-Orsedd and Mwmbwll. No information of anything further being done with the Halkyn Deep-Level Company. Local shares are quoted:—Drainage, 10 to 10½; Rhosesmor, 3½ to 4; Rhydalun, 10 to 10½; North Hendre, 6 to 7; Pen-yr-Orsedd, 1 to 1½; Lady Ann, 1 to 1½; Mwmbwll, 1½ to 2; Pant-y-Mwn, 1 to 1½; Fron, at par. Of foreign shares on this market considerable enquiry comes for Pitangui shares, as it is the general impression that any day may bring news of the cutting of Francisco lode, in Holland's shaft. Shares are, therefore, strongly held pending advices as to progress in this part of the property, and they are difficult to reach. Brazilian, 1 to 1½; Don Pedro, ⅝ to ⅞; Pitangui, 3 to 3¼; Santa Barbara, 1⅞ to 2¼; West Frontino, 1 to 1½; Frontino, 3⅞ to 4⅛. The eleventh ordinary general meeting of the Rhosesmor Mining Company is convened for the 30th inst., when the directors will be able to present a glowing report to the shareholders.

WREXHAM.—Mr. JOHN L. M. FRASER, sharedealer (Oct. 28), writes: Minera are quoted 8 to 9; a dividend for Michaelmas quarter of 2s. per 5l. share was declared, and will be payable on Nov. 15. Pant-y-mwyn, 1½ to 2; the great runs of lead ore will soon be cut in the bottom level west of Modlyn shaft. British Silver-Lead, 2 to 2½; these mines are destined ere long to prove the richest in Wales, as large bodies of ore can now be seen in the shafts and stopes.

SCOTCH MINING AND INDUSTRIAL COMPANIES' SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, sharebroker and ironbroker (Oct. 28), writes:—Since last report (Oct. 14) the markets have been more lively, and a general advance in prces has ensued. Trade, as a rule, seems larger and more profitable, so there is considerable inducement for investors to go into mineral shares at present low prices, as such of the companies as are sound will soon begin to pay good dividends again.

In shares of coal, iron, and steel companies the movements for the fortnight comprise advances of 4l. 10s. per share on Nant-y-Glo and Blaina (pref.), 30s. on Bolckow, Vaughan, 20s. on Ebbw Vale, 14s. 6d. on Marbellas, and 5s. each on Clyde Coal, Chillington Iron, Scottish Australian, and ditto new, 2s. 6d. on Monkland preference, and 1s. on Glasgow Port Washington, while Steel Company of Scotland are 2s. 6d. lower, and Benhar Coal 1s. The pig-iron warrant market has been more active, and the warrants advanced from 50s. 2½d. to 52s. 7½d. The prospects are without doubt encouraging, and owing to scarcity of makers' brands, prices for this description are firm. The Clyde shipbuilding yards continue very brisk, the work on hand in some cases being sufficient for the next nine months. The number of furnaces in blast is now more than at this time last year, but the stock is not increasing much, and in some weeks has decreased, which is more favourable. Benhar Coal shares have improved from 23s. to 25s. 6d. A meeting of the Cambuslang Coal Company was held on Oct. 27. Antrim Ore, A, are at 45s.; Bilbao, 23¾; Bilson and Crump, 62s. 6d.; Bolckow, Vaughan, 28⅞; ditto (12l. paid), 16½ to 16¾; Cardiff and Swansea, 40s.; Charles Cammell and Company, 9 dis.; Chatterley Iron, 7½; Chillington Iron, 80s. to 85s.; Clyde Coal, 55s. to 60s; Consett Iron, 15¼ prem.; Darlington Iron, 5l. 11s. 3d.; Ebbw Vale, 9¾ to 10; Great Western Colliery, 50s.; Hamstead, 9 dis.; Henry Briggs, A, 9½; John Bagnall and Son, 25s. to 30s.; John Brown and Co., 12 dis.; Lofthouse, 25s.; Llynvi and Tondu, 6 to 6¼; Muntz's Metal, 13½; Mersey Steel, 60s. dis.; Marbella, 76s. to 80s.; Monkland Iron and Coal, 53s. 6d. to 55s.; ditto (preference), 37s. to 38s.; Newport Abercarn, 6 to 6¼; Oakham Colliery (preference), 5s.; Omoa and Cleland, 24s. to 26s.; Parkgate, 50s. prem.; Pearson and Knowles, 42 dis.; Pelsall Coal and Iron, 5 dis.; Rhymney Iron, 24s.; Steel Company of Scotland, 11¾ to 12; Scottish Australian, New, 22s. 6d. to 27s. 6d.; Sheepbridge, New, 84; Sandwell Park Colliery, 15¼; Staveley, A, 16 prem.; South Wales, 40s.; ditto. Preference, 41s. 3d.; Thorpe's Gawber Hall, 40s.; Tredegar, A, 7 dis.; and West Cumberland, 7 dis.

In shares of foreign copper and lead companies, Tharsis have advanced 27s. 6d. per share. Rio Tinto 17s. 6d; Cape and Tharsis (new), each 10s.; Panulcillo, 7s. 6d. York Peninsula, pref., 2s. 6d.; but Canadian and Huntington are each 6d. lower. The meeting of the Yorke Peninsula Company will be held on Nov. 2. Tharsis have steadily improved from 31l. 18s. 9d. to 33⅜; Anglo-Aspana are at 10. Alamillos 22s. 6d.; Canadian, 32s. 6d. to 33s. 9d. Copiapo, 8½; Fortuna, 5¾; Huntington, 62s. 6d. to 63s. 6d.; Linares, 6¼; New Quebrada, 95s.; Panulcillo, 90s. to 95s.; Rio Tinto (5 per cent.), 95½; Virneberg, 30s. to 40s.; Yorke Peninsula, 5s. to 7s. 6d.; and ditto preference, 17s. 6d. to 22s. 6d.

In shares of home mines prices show very little alteration, owing to the quiet state of the metal markets. Glasgow Caradons have improved 1s. 6d., from 23s. to 24s. 6d. East Chiverton has made a call of 4s. 6d., and will shortly sell another parcel of sliver-lead. The report of the Parys Copper Company states that since February last the sales of ore, &c., realised 2125l., and the average monthly expenditure in excess of receipts has been about 170l.; the current assets in excess of liabilities are at present about 2900l., in addition to which there are ores, &c., valued at about 2000l. Although no large deposit of copper has yet been discovered the directors are sanguine that the mine will turn out well. Blue Hills are at 85s.; Bettws-y-Coed, 15s. 6d.; Berehaven, 4s.; Bwlch United, 50s.; Carn Brea, 83; Devon United, 40s.; Devon Consols, 11; Dolcoath, 56½; Drakewalls, 40s.; East Crebor, 20s. to 22s. 6d.; East Pool, 35½; East Caradon, 35s. to 40s.; East Van, 47s. 6d.; East Buller, 22s.; Great Laxey, 17½; Herodsfoot, 25s.; Hingston Down, 28s. 9d.; Killaloe Slate, 9s. 6d.; Lady Bertha, 15s.; Levant, 11; Llanrwst, 12s. 6d.; Marke Valley, 37s. 6d.; Mining of Ireland, 61s. 3d.; Mid-Devon, 6s.; North Molton, 5s. to 10s.; New Caradon, 15s.; North Penstruthal, 22s. 6d.; New Kitty, 17s. 6d. to 22s. 6d; Pandora, 15s. to 20s.; Pant-y-Mwyn, 20s. to 50s.; Pateley Bridge, 10s. to 20s.; Roman Gravels, 9 to 9½; South Caradon, 65; South D'Eresby, 19s.; South Frances, 12½; South Penstruthal, 15s.; South Condurrow, 11½; Tamar, 15s.; Tincroft, 16¼; West Chiverton, 12s. 6d to 17s. 6d.; West Caradon, 40s.; West Gunnislake, 15s. to 25s.; West Kitty, 45s. to 50s.; West Pateley, 30s.; West Seton, 20; West Basset, 16½; West Mary Ann, 25s.; West Polgooth, 40s.; West Peevor, 15½; Wicklow Copper, 9s.; Wheal Crebor, 85s. to 90s.; Wheal Jewell, 16s.; Wheal Grenville, 10½; Wheal Peevor, 23; Wheal Hony, 50s.; and Wheal Uny, 55s. to 65s.

In shares of gold and silver mines prices remain steady. Richmonds have declined to 15⅛, 15⅜, this week's run being $58,000. The London and California Company has resolved to accept an offer of their agent in California to lend them 10,000l. on security of the property. The produce at St. John Del Rey for October has been 3003l., and the profit at Tolima for August has been $172. Almada has received advices of a remittance of $3000. Almada and Tirito are at 10s.; Australasian Mines, 3s. 9d. to 5s.; Chontales, 2s. 6d. to 5s.; Colorado, 45s.; Don Pedro, 13s. 9d.; Devála-Moyar, 52s 6d.; Emma, 60s.; Eberhardt, 45s.; English Australian Gold, 17s. 6d. to 20s.; Flagstaff, 30s.; Frontino, 78s. 9d.; Gold Coast, 7s. 6d. to 10s.; Indian Glenrock, 1 25s.; Kapanga, 12s. 6d. to 15s.; Mysore, 10s. prem.; Nouveau Monde, 18s. 9d.; New Gold Runs, 3s. 9d. to 6s. 3d.; Pestarena United, 6s. 3d. to 8s. 9d.; Rio Grande, 50s.; Rossa Grande, 2s. 6d. to 5s.; Port Phillip, 7s. 6d. to 10s.; Ruby, 5¾; South-East Wynaad, 28s. 9d.; South Indian, 32s. 6d.; Tecomo, 5s. to 10s.; and Victoria. London, 5s. to 10s.

In shares of oil companies Dalmeny have advanced 1l. per share, also Broxburn and Uphall each 5s., but Young's Paraffin are reduced 2s. 6d., at 13½.

In shares of miscellaneous companies prices are generally higher. Phospho-Guano have advanced 5s. per share, while Nobel's Explosives and Zoedone Company's shares are both higher. Cheshire Salt are at 7½; Droitwich Salt 10s. to 20s.; Earl's Shipbuilding, 18¾ dis.; India Rubber, 17; Native Guano, 5¾; Neuchatel Asphalte, 7s. 6d. to 10s.; Palmer's Shipbuilding, 1¾ dis. In wagon companies' shares Scottish have advanced 2s. 6d. per share at 9; prices of others are:—Bristol and South Wales, 7; Birmingham, 14¼; Gloucester, 8½; Metropolitan, 65s. prem.; Midland, 10; Railway Carriage, 5; Swansea, 50s.; and United States Rolling Stock, 17¼ to 18¼. Prices of chemical companies' shares are:—Langdale's, 60s.; Lawes', 5¾ to 6; and Newcastle, 30s. to 35s.

STEEL COMPANY OF SCOTLAND.—The meeting of this company was held on October 27, and the report then snbmitted for the year ended August 31 states that the result has been favourable. The demand for steel for constructive purposes has so largely increased within the past year that this company has had to provide additional works and plant at an outlay of 50,606l. When these additions are completed the total production at the works will not be less than 80,000 tons of ingots per annum. The steel manufactured by the company maintains the very high reputation it has acquired in the market for uniform first class quality. The orders have been chiefly for ship and boiler purposes, and the total production of manufactured steel shows a large increase, the production of plates and angles being more than doubled. The profit for the year amounts to 49,857l., from which have to be deducted—depreciation 9563l., and interest 8494l., leaving a balance of 31,800l., which with 2438l. from last year gives 34,238l. to be disposed of. As the company are now doing a large general business the directors recommend that 3000l. be applied to create a reserve fund, and a dividend of 9 per cent. paid, leaving 2658l. to be carried forward. The 31,564l. received as premiums on shares will be applied—9130l. in writing off royalties account, and 22,433l. in writing down cost of the works at Newton.

STEEL COMPANY OF CANADA (Limlted).—This company acquired the Londonderry Ironworks in Nova Scotia in 1873, and is now producing pig-metal, bar-iron, and railway carriage wheels, which find a ready market in the Dominion, while steel itself is only as yet a limited market there. Two large coke furnaces have been built, and a rolling-mill erected, for the manufacture of merchant bar-iron. The furnaces, 60 ft. high, were built on modern plans, but only one has been used, the other being ready to put in blast as soon as trade demands warrant so doing. The output is upwards of 20,000 tons per annum, part of which is sold to founderies and agicultural implement makera, the remainder going to the rolling-mill to be made into bar-iron. The ores smelted in the blast-furnace cannot be classed among the richest ores, as they yield only 45 per cent., but the quality of the product is very good, aad meets with much favour. The bar-iron is also well received, as it possesses good tensile strength. It is much used in the rigging of vessels and in the construction of railway carriages, the rural blacksmiths using the common brand for horseshoes. The metal made at the furnaces is also well adapted to the manufacture of railway carriage chilled wheels, a large quantity of which are turned out. The initial requisites for the carrying on of the works are close at hand—the coal in the Picton fields, and the iron ore in the immediate vicinity of the works. The iron mines are being fast developed, to ensure a supply of ore. The company possesses a tract of land 13 miles long by 5 miles broad. The approaches to the works are made easy by abundant railway tracks, and are connected with the Inter-Colonial Railway.

On Contango day (Tuesday) the following were the rates of continuation current:—Contangos: 1d. on Benhar Coal; 2½d., 3½d. on Canadian Copper; 2½d., 2d., 1d., 1½d., 5d. on Clyde Coal; 1s., 9d. on Devon Consols; 4d. on East Crebor; 3d. on Glasgow Caradon; 1½d. on Caradon New; 4d. on Glasgow Port Washington; 5d., 4d. on Huntington; 2d. on Kapanga; 4d. on Marbella; 2d., 3d. on Monkland Iron; 6d. on Pref.; 10d. on North Busy; 4d. on North Penstruthal; 2d. on Omoa and Cleland; 5d. on Panulcillo; 3d. on Parys Copper; 3d. on Rio Tinto; 5d. on South Indian; 9d. on Steel Company of Scotland; 9d. on New; 1s. 9d., 1s. 6d., even on Tharsis; 1s., 1s. 6d. on Broxburn Oil; 9d. on Uphall Oil; 1s. 3d. on India Rubber; 4½d. on Flagstaff; 7d. on West Caradon; 7d. on West Kitty; and 10d. on Wheal Crebor.—Backwardations: Even, 1d. on Benhar Coal; and even, 6d. on Young's Paraffin. On comparing the making-up prices fixed to-day for the following shares with those current at last settlement for the same shares, the variations thus shown to have taken place during the account are as follows:—Tharsis have advanced 32s. 6d. per share; India Rubber, 20s.; Rio Tinto, 13s.; Marbella, 13s.; Tharsis (New), 10s.; Panulcillo, 7s. 6d.; Monklands, 6s. 6d.; Uphall Oil, 6s. 3d.; Clyde Coal, 5s. 6d.; Glasgow Port Washington, 2s.; Monkland Pref., 1s. 3d.; and Benhar Coal, 6d. On the other hand Steel Company of Scotland have declined 5s. per share; ditto (new), 5s.; Canada Copper, 5s.; Huntington, 1s.; and Omoa and Cleland, 1s. The remainder show no alteration—namely, Broxburn Oil, ditto (new), Flagstaff, Glasgow Caradon (new), Oakbank, Richmond, and Young's Paraffin.

GLASGOW CARADON COPPER COMPANY.—This month's sale of copper ore by this company was 140 tons, realising 432l. 13s., or an average of 61s. 9d. per ton, which compares with 160 tons at 73s. last month; while the sales in the month of October for several years past have been:—In 1879, 180 tons, at an average price of 78s. 7d.; in 1878, 200 tons, at 87s. 9d.; in 1877, 235 tons, at 77s.; in 1876, 245 tons, at 109s.; in 1875, 245 tons, at 113s. 9d.; in 1874, 245 tons, at 102s.; and in 1873, 308 tons, at 99s. 5d. This is the company's tenth sale for the current financial year, and the proceeds of these ten sales, as compared with the sales in the corresponding period last year, show a decrease of 865l., but there have been 296 tons less ore sold this year.

EDINBURGH.—Messrs. THOMAS MILLER and SONS, stock and share-brokers, Princes-street (Oct. 28) write:—The market for Scotch railway stocks has been very strong of late. Since Thursday last Caledonian has risen from 115¼ to 117, and the Deferred No. 1 from 15 to 16 5-16, Glasgow and South Western from 114½ to 115, North British from 91 to 94⅝, Edinburgh and Glasgow from 35 1/16 to 38½. Highland has gone from 110¾ cum to 109 ex dividend. Great North of Scotland has advanced from 67½ to 71¼. The last two weeks' traffic on this line has shown a fair increase, and this has given a stimulus to the stock, which has also been affected by rumours of a close alliance with the Caledonian Company. The new issue of 5 per cent. preference 10l. shares, on which an instalment of 2l. 10s. is payable. have risen to 14s. premium. The mining market has been somewhat lively. Arniston Coal shares have risen from 7½ to 8. Benhar, after some fluctuations, stand at the same price as on Thursday last, 23s. 6d. Clyde Coal have risen from 54s. to 59s. 6d., Huntington from 61s. 6d. to 62s. 6d; Marbellas, from from 70s. 6d. went up to 83s., but fell again to 79s. Monkland rose from 51s. to 58s. 6d., but relapsed to 54s. 6d. Tharsis have risen from 32¾ to 33½. Edinburgh Tramway shares have receded from 14 3/16 to 14.

IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKET.

DUBLIN, OCT. 29.—The market has continued very dull, but during yesterday there appeared to be a slight revival, several small sales having been effected, at previous rates. Killaloe slate have been dealt in at 10s., which is an advance of 6d.; and Wicklow, Mining Company of Ireland, and Berehaven are also reported to have changed hands, although no dealings are noted on the Exchange.

CORK.—Messrs. J. H. CARROLL and SONS, stock and share brokers, South Mall (Oct. 27), write:—Markets continue dull, and business limited. Great Southerns remain at 116½ to 116⅝, and Midlands have declined to 91¼. Passages were done at 10½, and Macroom Preference at 7. Bandons have been in request, and close at 97½. National Banks are steady, at 66, and Munsters at 7. Provincials remain at 62, and Hibernians about 45 to 45¾. Cork Steam Packets are firm, at 13½ to 13⅝, and Lyons shares at 5l. Goulding's shares changed hands at 91½ to 91¾, and Levy's at 6 to 6½ per share. Harbour Board 4½ per cent. Debentures at 102.

THE WEEK.

SATURDAY, OCT. 23.—The market estimate of the Brighton dividend has now receded to 7 per cent., and the stock closed weak at 149¾. Of course, the whole year's dividend comes off the price, which is already below that of several others paying less, and which have already been mulcted of a half-year's dividend. But the ordinary investor shrinks from Brighton, A, and those who usually support the market are already saddled with far more more stock than they know what to do with. Berwicks were bought up to the very last, though the dealers elevated the price 2¾. It is understood that the process for manufacturing steel direct from molten ore has been successfully tried at Bolckow, Vaughan's. The closing price was 170½. In "The Week" for Sept. 29 this stock was mentioned as one of the "selected," price then being 164⅜. Bolckow, Vaughan (12l. paid) advanced 1¼, to 5½ prem.

MONDAY.—A larger business than for some time past was done in home railways, quotations materially advancing. In one instance a purchase of 40,000l. Midland stock was reported, which is intended to be taken up this account, so as to secure the new 10l. shares referred to in our last week's article. Berwicks finished at 172¼, a further rise of 1¾; while in York A the advance was as much as 3l. North British closed at 93¾, ¼. Turkish bonds were heavily bought, though quotations did not advance more than ¼ to ½. Reading securities were in pressing request, the shares rose to 822, and the Mortgage Bonds to 86l. Frontino mining shares realised 4l., New Quebrada 5l., and Nouveau Monde 1l.

TUESDAY.—North British continue to advance with unabated vigour, and ultimately reached 95. Caledonian closed ½ better, at 116⅜. Dover, A, rose ¾, to 131¾. Brightons are still pressed for sale, and have now fallen to 148¼. In the American enormous dealings again took place in Reading shares. From 822 there was a rapid rise to 824½, but the last price was only 823½, owing to the price just at the close coming lower from New York. New Quebrada, 4⅞ to 5⅛; Eberhardt, 2 to 2⅛; Ruby, 5½ to 6; Nouveau Monde, ¾ to 1; Devala Moyar, 2½ to 2¾; Canadian Copper, 1½ to 1¾; East Caradon, 1¾ to 2.

WEDNESDAY.—Rates for continuing home railways were extremely light—no change whatever was made on York, A—and the traffics coming out good made the market very buoyant. North-Eastern having an increase of nearly 17,000l. went straight from 171½ to 173¼. A marked demand for Midland was again apparent, and here the rise was 1⅝ (from 136½ to 138⅛). An advance of 1½ took place in Dover, A; but all these favourable movements availed Brighton, A, nothing—this stock left off dull at 148, after at one time touching 157¼, being a further fall of ⅞. North British after the late extraordinary rise was a little dull at the last, and gave way ¾. Erie shares reached 846½. Wheal Crebor rose to 4¾, 5.

THURSDAY.—During the account now in course of liquidation, a sharp recovery has taken place in home railways. In North British the rise has been something extraordinary. At the mid-monthly settlement the stock was carried over at 84½ and this time at 94½—an advance of exactly 10 per cent. The ordinary stock is of small dimensions, but a matter of 15 days has increased its value to the extent of nearly 400,000l. During the same period North-Eastern have improved from 166¾ to 173—6¼ per cent.—making a difference in value of something approaching to 1,250,000l. sterling. Unfortunate "bulls" in Brighton, A, have had to face a fall of 5¾ per cent.—from 164½ to 158¾. A further fall took place to-day.

FRIDAY (*Opening*).—Very little alteration is apparent in the railway market, the delivery of stock and the collection of cheques engaging everyone's attention Brighton, A, are down ¼ for an exceptional matter, which will have to be settled in the course of the day. Great Western, 129¾; Brighton, A, 157½ to 157¾; Dover, A, 133¼ to 133½; Unified, 86½ to 86⅝; Mexican, 13½ to 13¾; Spanish, 20⅜ to 20⅝; Turks, 10¼ to 10⅜. Egyptian Daira are ½ better. Buyers of Wheal Crebor offer 5¼, without inducing many sales, the improvement being well thought of. Prince of Wales, 1⅛ to 1¼; Parys Corporation, ⅜ to ½; Roman Gravels, 9¼ to 9¾; Richmond, 15⅜ to 15⅝; Colorado, 2¼ to 2⅜; Frontino, 4 to 4¼; Emma, 3 to 3⅛; New Quebrada, 4¾ to 5; Grand Trunk, ordinary, 20¾ to 21; first preference, 93 to 93½; seconds, 82 to 82½; thirds, 41¾ to 42. ——*Two o'Clock.*—Brightons have been as high as 159, now 158¾ to 158⅝. After being dull, British are in strong demand, and have reached 95. Atlantic are up to 53½, 54, while Reading shares are neglected at 822. Emma, 3⅛ to 3⅜; New Quebrada, 5⅛ to 5⅜; South Indian Gold, 1½ to 1¾; Ruby, 5¾ to 6; Copiapo, 9½ to 10.——*Four o'Clock.*—Home railways have mostly relapsed. Brightons are now the same as last night, while Dover, A, have fallen 1¼. A large portion of the rise in North British is now lost. Caledonian are ⅜ and Berwicks ¼ lower. Pennsylvania shares are strong, at 862¼. Chillington Iron, 3¾ to 4; Newport Abercarn, 6 to 6½; Royal Aquarium, 4 to 4¼; London Steamboat, 5½ to 6; Rollers, 17¾ to 18; Price's Candle, 7½ to 8.

FERDINAND R. KEIL.

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES.—No. CLXV.*

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The oldest piston ventilators of any size appear to have been put up at the Grisœuil and St. Victorie Collieries, Belgium, about 1828 and 1830, and consists of two rectangular boxes of wood, with square pistons, likewise of wood. The boxes are about 8 ft. square in section, and the piston has a stroke of 5 ft. 3 ins. The bottom of the boxes only are provided with a cover, in which are four rectangular openings, which can be closed by four hinged valves. The valves open inwards and upwards. Similarly the body of the piston is provided with four openings, which are covered on the upper side with four hinged valves. The valves are balanced with counterweights attached to one end of short iron levers, the opposite end of the lever being attached to the valve by means of a short link. The pistons have no piston rod proper, instead several iron bars, which meet together where they are attached to a chain, by which each piston is hung from the opposite end of a balance beam, having curved sectors at each end. The pistons descend by their own weight. During the upstroke air enters through the valves in the bottom of the box, and escapes through the valves in the piston during the downstroke. A vertical arm of the balance lever is connected by means of a connecting rod, with a crank rotated by gearing from a 12-horse power steam-engine. The pistons made upwards of 20 strokes per minute, and exhausted 42,750 cubic feet per minute. The engine required 33½ cwts. coal for 24 hours, which gives 16,450 cubic feet drawn through the mine per 1 lb. of coal consumed.

The largest and most expensive ventilator of this description is that which was put down at the Bonne Esperance Colliery, near to Seraing. It consists of two large cylindrical wooden vats, or barrels, open at the top. In the bottom are two circles of trapezoidal shaped openings (20 in number), which are closed by valves. The valves are formed of a piece of leather of the same shape, but slightly larger than the openings. It is covered on both sides by a piece of sheet-iron of the shape of, but slightly less than, the valve opening, the whole being connected together by rivetting. The valve is attached by screws passing through the leather near one edge to the bottom of the cylinder, the flexibility of the leather rendering the use of a hinge unnecessary.

The piston is of cast-iron, strengthened on the underside by 10 radial ribs. It contains 20 trapezoidal shaped valves (as in the bottom of the cylinder), opening upwards. The valves in the cylinder bottom also open upwards. The pistons are attached through the intervention of parallel motion, by means of long iron pistou rods, to the ends of a large balance beam, to which an oscillating motion is given by the means of a high pressure steam cylinder placed vertically above and in the centre line with one of the ventilating cylinders. In order to prevent any vibration of the piston it is stiffened by attaching inclined bars to the piston near to the circumference, the upper ends of the bars being fastened to the piston rod. The steam cylinder is double acting, actuated by tappet motion. The working of the ventilating machine is very simple. During the upstroke the air is exhausted from the shaft, and during the downstroke it is forced out of the cylinder. The ventilating machine is placed sideways from the pit, the bottom of each cylinder being connected by a brick culvert with the upcast shaft. The mouth of the shaft is covered by two sheet-iron doors, the joints being made air-tight with clay. The object of this arrangement is to save the ventilating apparatus in case of an explosion, since in such a case the blast would find freer vent by blowing open the sheet-iron doors, which could readily be replaced. The ventilating cylinders are 11 ft. 4 ins. in diameter, and have a stroke of about 6 ft. and a ventilation of 17,000 cubic feet per minute was obtained.

The following are the results of observations on the effect of the apparatus obtained by M. Trasenster:—

	(1)	(2)	(3)
Strokes per minute	14·5	13·4	9·4
Watergauge depression, upcast shaft..	2·96 in.	1·84 in.	1 in.
Watergauge depression in cylinder ...	5·6 in.	4·16 in.	3·04 in.
Ditto, compression, do. ...	2·48 in.	1·8 in.	1·96 in.
Total difference in cylinder	8·08 in.	5·96 in.	4·76 in.

From (1) it will be seen that the depression in the shaft, which we may call the useful or effective depression of the water guage, is only 2·96 ins., whilst the total difference of water guage reading given by the ventilator is 8·08 in.; and, therefore, the ratio of useful depression to actual depression, and compression, produced is as 2·96 to 8·08, or 36·6 per cent. Similarly we get from (2) only 30·3 per cent. of useful work, and from (3) 8·4 per cent. It must be observed, however, that to be more correct these numbers should be multiplied by the percentage volume of air actually exhausted from the pipe compared with the space traversed by the piston. The amount of air exhausted per minute was found to be 16,800 cubic feet, with a piston velocity of 6·25 ft. per second; the corresponding space passed through by the piston equalled 18,300 cubic feet, hence the loss amounts to 8 per cent. The air actually exhausted, which we may call the wind effect, being 92 per cent. of the theoretical quantity. It will be seen at once that the difference between the useful effect and the work actually applied to the ventilators, even taking into account the loss of air, is chiefly due to the resistances of the valves. The force necessary to raise the piston valves is measured by the compression produced in the cylinder during the down stroke. The force necessary to raise the cylinder valves, and to cause the air to enter the cylinder, is given by the depression of the water guage during the upstroke. If the mouth of the upcast is uncovered, so as to give the air free access to the underside of the cylinder, and the ventilating apparatus is set going, the depression of the water guage (attached to the piston) will measure the resistance of the valves in the bottom of the cylinder. The following gives a comparison (1) when the upcast shaft is closed, and (2) when it is opened:—

	(1)	(2)
No. of strokes per minute	13	11
Waterguage depression (upstroke)	4·3 in.	2·5 in.
,, compression (downstroke)..	1·73 in.	1·64 in.
Sum of depression and compression.....	6·03 in.	4·14 in.

According to the above the resistance opposed by the valves in the bottom of the cylinder is measured by a water guage reading of 2·5 ins.; this substracted from 4·3 ins. gives 1·8 in. as the measure of the useful work done in exhausting the air from the upcast shaft. This multiplied by ·92 (the wind effect) gives the actual waterguage measurement of the useful effect, or 1·65 in. The difference between this and 1·8 in. (·15 in.) measures the loss of wind effect. The resistance offered by the valves in the bottom of the cylinder is measured by a depression of 2·5 ins. of the water guage, and the resistance offered by the valves in the piston may be averaged at 1·7 in., and hence the total resistance offered by the valves will be measured by 2·5 + 1·7 = 4·2 ins. The friction of the piston against

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz North Germany.

the side of the cylinder is given as measured by 1·2 in. Tabulating the above we have:—

Useful effects	1·65 in.	5·05	horse power
Loss of wind effects	·15 in.	·45	„ „
Resistance of valves	4·2 in.	12·70	„ „
Friction of piston	1·2 in.	2·60	„ „
Total	7·2 in.	20·8	„ „

The horse-power is obtained hy multiplying the cubic space traversed through by the pistons per minute (or the theoritical quantity of air exhausted 18,300 cubic feet) by the reading of the water guage, and (total 7·2 ins.) by 5·19, and dividing by 33,000, gives as a total 20·8-horse power. Comparing the useful effect (5·05-horse power) with the total 20·8-horse power, we obtain as the actual useful effect of the ventilator 24 per cent. The ventilator is driven by a steam cylinder 16 ins. in diameter, of 34 theoretical horse-power, with a consumption of 264 lbs. of coals per hour, or 4·4 lbs, of coals per minute. This gives 3800 cubic feet of air drawn through the mine per 1 lb of coal burnt. The comparative smallness of the effect is evidently due to the resistances offered to the passage of the air through the valves. M. Trasenster estimated that by properly balancing the valves the useful effect may be brought up to 63 per cent. The greatest useful effect given by any vertically arranged piston ventilator is obtained with the ventilator at the Grande Veine du Bois at St. Ghislain Collieries, and which is provided with balanced valves. The useful effect is given at 40·4 per cent.

In consequence of the high first cost and cost of repairs, which in the case of the ventilator at the Bonne Esperance Colliery amounted to 38*l.* annually, the machines fell into disuse in Belgium, until revived by Mahaux, who adopted a horizontal arrangement of the cylinders.

A ventilator on Mahaux's plan was fitted up at the Charleroi Collieries. This consists of two horizontal cylinders, or more correctly rectangular boxes, 15 ft. broad, 12 ft. 6 in. high, and 10 ft. long. The boxes are placed opposite and in the same centre line with each other, so that the same piston rod serves for both cylinders, and also for a steam cylinder, 16 in. diameter, and of the same stroke as the ventilating cylinders, which is placed between the steam cylinders. The ventilating boxes are made of thick wooden staves carefully planed and strongly bound together on the outside. The pistons are provided with four valves, which open towards the steam cylinder. The inlet valves are placed in the end of the ventilating boxes farthest from the steam cylinder, the ends near the steam cylinder being open. The pistons of the ventilating cylinders are made to work tight by means of a packing of hemp rope, which is kept pressed against the sides of the ventilating boxes by springs. To prevent as much as possible the friction of the pistons on the bottom of the ventilating boxes the former are provided with angle-iron shoes, which slide upon cast-iron guides placed upon the floor of the ventilating boxes. The slide valve of the steam cylinder is actuated by tappets worked from the main piston rod. The whole of the arrangement is built upon brickwork. The pistons make 17 strokes per minute, and exhaust 27,000 ft. per minute, and the drag on the water-gauge is 3 in. The wind effect is given as 93 per cent., and the useful effect of the steam cylinder being assumed at 70 per cent., the useful effect of the ventilating machine is given as 65 per cent.

The largest ventilating machine of this kind is that erected by Nixon, at the Navigation Colliery, Aberdare. It consists of two immense ventilating boxes placed side by side, with the centres about 36 ft. apart. The pistons which work in these ventilating boxes are 30 ft. broad, 22 ft. high, and have a 7-ft. stroke. The pistons are set in motion by a single cylinder steam-engine, which drives a long crank shaft: the piston rods of the ventilating boxes being attached by means of long connecting rods to the cranks on the end of the crank shaft. The crank shaft carries two fly-wheels. The pistons of the ventilating boxes are solid, and each is carried by two pairs of wheels running on two rails or guides laid down on the floor of each of the ventilating boxes. The inlet valves are placed in the lower half of each end of the boxes, and the outlet valve in the upper half of each end. The valves are very numerous and very light, being formed of wood with a leathern hinge. With this arrangement the valves give a large space for the ingress or egress of air, and they are sooner opened and closed. In consequence of the immense size of the pistons they cannot be moved close to the end of the ventilating boxes, and in consequence a large amount of dead space is caused. The wind effect is on this account comparatively small, amounting only to 50 per cent. This ventilator of Nixon's, it will be secn, is double-acting, whilst those previously described are single-acting.

A very simple arrangement of a double-acting air pump is in use at the Matilda Colliery, in Upper Silesia, for ventilating a level 500 yards in length. A vertical cylinder, 20 in. in diameter, is placed in the shaft and connected at each end with a wooden valve-box containing inlet and exhaust valves. The piston is moved from the pump-rods in the shaft, and the air is forced in rectangular wooden pipes to the end of the level. This ventilator, which is a compressor ventilator, is, it will be seen, double-acting. A similar arrangement was used at the surface at the Hebburn Colliery.

ATMOSPHERIC GAS.

It will be easily understood that if carburetted hydrogen is caused to arrive on to a plate heated to a temperature sufficient to immediately reduce it into vapours, and if at the same time air is conducted on to this hot plate, which air absorbs these vapours and intermingles with them, this air will then at once be found to be carburetted. The mixture or compound of air and hydro-carburet vapours thus obtained will be rendered either explosive or illuminative at will, according to the greater or less proportion of the hydro-carburet vapours mixed with a given quantity of air. It can consequently be immediately utilised providing it is conducted either to the cylinder of the explosive engine which it is to work, or to the burners where it is required to illumine, through tubes or pipes in which it is kept from contact with the exterior air which would deteriorate it. These tubes or pipes are provided with cheeks and wire gauze for ensuring the thorough mixture of the air and the vapours. and to prevent all possibility of communication of flame from the mixture to the interior of the apparatus. For the formation of the required mixture the flow or arrival (and consequently the vaporisation) of the hydro-carburet on the hot plate will take place during the whole time of the arrival or flow on to the said plate of the air to be carburetted, so that all the parts of this air successively encounter the nascent vapours, which transform them into an explosive or illuminative compound.

Pumps, pistons, bellows, or any other means are employed to conduct the hydro-carburet by one or more tubes or other means on to the hot plate. It is conducted either from above to below, horizontally, obliquely, or from below to above. It may also be conducted to the plate with greater or less pressnre, and if necessary projecting it against an obstacle to divide it, rendering it easier to vaporise. The action of these various appliances is regulated in such a way as to conduct in a gradual manner on to the hot plate the exact quantity of hydro-carburet necessary for these vapours to carburet to the desired degree all the air arriving or flowing during the given time on to the hot plate. This quantity of air is exactly regulated in proportion to that of the hydro-carburet by means of openings of a certain size through which it passes on to the hot plate. By this process not only petroleum and volatile oils, but also thick oils, which are very economic, may be utilised by giving a higher or lower temperature to the hot plate, according to the natnre of the hydro-carburet to be vaporised.

Some carefully considered arrangements have been designed by the Société des Moteurs Lambrigot, of Paris, the nature of which will be understood from a description of one of them. According to this method orifices are made in the apparatus for the introduction of the air to be carburetted, which is conducted to a roughened or grooved hot plate through channels formed by partitions. The air in passing over the hot plate intermingles with the hydro-carburet vapours which are conducted on to the grooved hot plate through a tube, whose interior diameter is very small. This air and the vapours are compelled to mix intimately with each other by means of checks. They are at once carburetted. For the purpose of thoroughly effecting the mingling or compound of the air and hydro-carburet vapours before entering into an explosive engine or into an illuminating apparatus to which the present apparatus may be applied, a tube or cylinder is fixed on to the base plate of the apparatus, in which tube or cylinder are fitted two other checks pierced respectively with holes. After passing through these checks the mixture is screened by means of wire gauzes separated one from another by wires 1½ millimetres in thickness. The carburetted compound then passes into the engine or the illuminating apparatus by a distributing tube. The upper part of the tube or cylinder fixed on the base plate is closed in by means of a washer pierced with a small hole which allows the carburetted air and the hydro-carburet vapours which may be formed above the distributing tube to escape so as to avoid a counter pressure which would injure the proper working of the apparatus.

When the apparatus is applied to an explosive engine the spent gases from the combustion (as before described) are utilised to heat the grooved or corrugated plate, and for this purpose openings are provided in the plate which are in direct communication with the exhaust or escape pipe of the explosive gas, the temperature of which may be ascertained by means of a thermometer attached to the hot plate. The under or sole plate is fixed to the upper plate by violin screws *(vis à violon)* or by any other suitable means. In an apparatus specially applicable to explosive engines or motors, the air is conducted on to the hot plate by introduction pipes or tubes arranged all round a cylindrical trunk piece, but at different angles, so that the air introduced is caused to strike the plate at points more or less removed from the centre. This arrangement of the introduction or inlet pipes for causing the air to strike the plate obliquely is for the purpose of causing the air to remain a greater length of time in contact with the hydro-carburet vapours, and thoroughly mix with them. The hydro-carburet is conducted on to the hot plate through a tube. The carburetted air then passes through wire gauzes, each separated by wires 1½ millimetres in thickness, and from thence into a tube or cylinder constructed in the same way as that described in the preceding apparatus; finally the carburetted air passes into the engine or motor by another tube.

When the explosion is produced the gases resulting from the explosion escape by another tube, pass through orifices in the hot plate, thereby heating this plate, and from there into the atmosphere by another tube. The hot plate, which in this case is cylindrical, rests on a rectangular piece provided with two tubes to which pipes are fixed. This rectangular piece is pierced with an opening in the centre, the diameter of which is sufficiently large to leave an annular space or chamber around the hot plate. This hot plate is provided with a tube, in which a thermometer is placed. The introduction of air into the apparatus is regulated by means of tubes or pipes of gradually decreasing diameters that they may fit into each other like a telescope. It is understood that checks and any other obstacle may be placed in the interior of the space in which the hydro-carburets are vaporised, so as to ensure the most perfect mixture of the introduced air with the hydro-carburet vapours.

THE GOLD MINES OF INDIA.

At present, as for some years past, says the Standard in an interesting article published yesterday morning, many people have been looking for signs of new gold fields to replace the famous fields of California and Australia, that for all time will hold a place in history, but from which the supply has of late seriously diminished, Despite the ten hundred millions sterling obtained from these mines the civilised world is as eager as ever for gold, and men do not like to contemplate the prospect of a scarcity of the precious metal. Siberia and the mountains of Upper Asia is the region from which, trusting to Humboldt, men have hoped the most. But other minds have clung to the Indian tales and the high expectations which led Raleigh and other gallant explorers into the wilds of Guiana, ending in ruined plans or death. Probably various regions in Siberia, Guiana, and central Africa will be found auriferous, causing new rushes of civilized mankind into the waste places of the earth; but not in these or in any other anticipated quarter have the wished-for new gold fields first, or as yet, been discovered. Nevertheless, the discovery has been made in the old lines of historic or traditional belief upon which have been based the expectations of gold in Guiana and Africa, if not also in Upper Asia. Half a century ago the intellectual of Europe became enveloped in the cold mists of doubt and of well-nigh universal scepticism. Beholding contemporary events with new and wonderful clearness and fulness, learned men turned with contempt upon ancient records of all kinds, setting down such narratives as wholly unworthy of belief or even of attention. One result of this intellectual mood—strengthened, however, by the notable fact that the precious metals for ages past have been steadily flowing not from, but to the East—was to create the belief, nay confident historic assertion, that India had never at any time been rich in gold and silver, and that its wealth in "barbaric pearl and gold" was merely one more of the fictions with which mankind had been pleased to beguile itself. This view of the matter—propounded, as is usual now-a-days, with unfaltering confidence, and preached as a discovery—is only a few years old; yet what is to be thought of it now? The present race of historic investigators, enlightened by recent discoveries, are being forced out of the old scepticism into an acknowledgment that no nation consciously falsifies its own records; and the learned men who chose to disbelieve the familiar tales of Indian wealth—and who, in the face of the stores of rupees amassed by servants of the old East India Company, denied that there was, or had been, any "Padoga tree" with its golden fruitage to shake down—have within the last few months had good reason to distrust their scepticism. The most persistent sceptic has now only to look down the lists of the Stock Exchange to learn that there is gold in India, and that the gold-rocks for whose possession various companies are now eagerly competing were worked in those olden times of which Herodotus wrote, when India and its princes grew vastly rich, before its accumulated treasures were swept away from the land and dispersed throughout the hungry world of the West.

Every student who has read the narrative of the invasion of Southern India by the Mahomedan Princes of the North, must have been struck by the accounts of the vast spoil in the precious metals, chiefly gold, which then came into the hands of the ruthless conquerors. To the practical men of business of to-day—when the interests of trade are supreme—these old narratives first of all suggest the question, Whence came all this golden treasure? We now begin to find an answer to that question. Among the bush-covered hills of Wynaad and Mysore recent explorers have come upon some of the quartz-reefs which supplied those ancient stores of gold. We find the old "workings" in that long desolate region, where they have for ages lain hid under the wild spontaneous growth of nature. Rude and simple those old workings evidentlywere—although hardly more so than those, still visible, of the old Spanish mines which yielded so much gold first to Carthage and afterwards to Rome. The very fact of the rudeness of the old workings is a source of promise to those who have re-discovered them. If those Indian quartz rocks were profitable with such poor appliances in the ancient times, will they not surely yield abundantly to the highly-skilled processes of the present day? The reports and analyses of Mr. Brough Smyth, ex-State Mineralogist for the Bombay Territory, leave little doubt that these auriferous quartz-reefs can be worked with ample profit.

But already the question has been raised—Why should not the Indian Government take those gold mines into its own hands? Ought the State to allow each rich lode although undeveloped source of wealth and revenue to pass out of its own possession and management? It is needless to say that such a question receives no favourable answer in the commercial world. London, it is there urged, has laid its hand upon those Indian gold mines, and the Indian Government must stand aside. This view of the matter is quite natural; indeed, there are very strong arguments in support of the contention that the work should be left to private enterprise. No one, however, will *prima facie* regard them as conclusive, and the real point to be determined is simply—What is the most profitable course for the Indian Government, acting on behalf of our Indian Empire and its people? In India, as throughout the East, the land, with its possession and cultivation or development, stands in a wholly different relation to the State than is the case in Europe. In the East the revenue, the necessary expenditure of the State, is chiefly supplied from the land, and the land tax is the substantial pillar of our Indian finance. There are many reasons both for and against the assumption of gold mining by the Government of India, but for the present it is enough to point out that there is such a question, and that it is one of high importance to all concerned.

MANCHESTER GEOLOGICAL SOCIETY.—At the annual meeting of this society, held on Tuesday at the rooms of the Literary and Philosophical Society, Mr. Joseph Dickinson, F.G.S., in the chair, a report was presented by Mr, J. S, Martin, hon. sec., in which it was stated that the total number of members at the present time is 188 (10 life and 160 ordinary), and that the society's monetary position continues to be satisfactory. The balance of 18*l.* due to the treasurer at the close of the previous year, as well as all expenses up to the present time, have been paid off from the current income, and a balance of 19*l.* has been carried forward to the credit of the society, leaving previous investments unaltered. The report and also the statement of accounts presented by Mr. H. M. Ormerod, hon. treasurer, were unanimously approved. Sir U. J. Kay-Shuttleworth, Bart., was unanimously elected president of the society for the year 1880-1, and two new vice-presidents (Mr. G. S. Fereday Smith and Mr. G. Gilroy) were elected. Mr. Ormerod was re-elected treasurer; Mr. J. S. Martin and Mr. G. C. Greenwell, jun., hon. secs.; and the following gentlemen were appointed to fill vacancies in the council—namely, Mr. J. Atherton (Bolton), Mr. J. L. Hedley, Mr. W. J. Grimshaw, and Mr. C. G. Jackson. Four gentlemen having been elected ordinary members of the society, the meeting concluded with a vote of thanks to the retiring council.

FOREIGN MINES.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada: Week's run, $58,000, from 1020 tons of ore. Refinery, $50,000.

— R. Rickard, Oct. 6: Report of the different operations for the past week: The cross-cut from Lizette tunnel has been extended 11 ft. in hard limestone. The 200 north cross-cut has been drifted 8 ft., without any change to mention. The 500 drift, north from No. 14 chamber, has been advanced 4 ft. in favourable looking ground. The 600, main west drift, has been extended 15 ft. in good ground for drifting. The 600, north from No. 14 chute, has been advanced 17 ft. without any change to mention. The 600, No. 1 cross-cut north, has been drifted 10 ft. in hard limestone. The 600, No. 2 north cross-cut, has been extended 11 ft. in soft limestone. Work in these two last-named drifts has been suspended for the time being, and the men put to drift south. The 600, south from west drift, has been extended 8 ft. in favourable looking limestone. The 700 drift, west from shaft, has been advanced 5 ft. in hard limestone. The 700, west from 600 winze, has been drifted 13 ft. in favourable looking ground. The 800 west has been drifted 10 ft. in hard limestone. The 800, north on fissure, has been advanced 10 ft.; ground very favourable for ore. The 900 north cross-cut has been extended 17 ft.; ground not quite so favourable as it was. The 900, north-west on fissure, has been advanced 14 ft.; the fissure is still regular and well defined, with broken ground on each side of it, and looks favourable for striking ore; a rise has been started near the end of this drift to explore on the fissure. No. 13 chamber is looking very well. No. 14 has very much improved; it is looking better now than it has for six months past. No. 15 is looking well, and turning out the usual quantity of ore. All other parts of the mine are without any change. The furnaces are in good working order, and smelting their usual quantity of ore. The machinery, both in mine and smelting works, is running smoothly.

FRONTINO AND BOLIVIA.—Oct. 28: The following is the statement of profit and loss for the month ending August: 1722 tons of ore produced 2428 ozs. of gold, or on an average of 1 oz. 8 dwts. per ton; gold bought, 352 ozs.; total, 2780 ozs. Value of thegold, including profit on exchange, 7576*l.* Coal at the mines, in London, and at Medellin, 3378*l.* 4s.; gold bought, 613*l.* 16s.: total, 3992*l.* Profit, 3584*l.* Mr. White, referring to his estimate of produce as having been considerably exceeded, says that no special effort was made to obtain this result; and we may expect the remittance to reach a higher figure shortly. The yield from 364 tons of Silencio was 1008 ozs., on an average of 2¾ ozs. per ton, and Mr. White says, we may hope to see Silencio average its 60 lbs. per month as soon as we can count upon an output of 400 tons. All the mines are in a progresive and satisfactory state.

ANTIOQUIA.—Oct. 28: The following is the summary of cost and returns for the month of August: 64 tons produced 27 ozs. of gold, average 8 dwts. per ton. Mine cost and expenses at Medellin and in London, 488*l.*; value of the gold, 81*l.*: loss, 407*l.*

TOLIMA.—Oct. 23: The profit for August was $172·5. The superintendent adds: This result is not so satisfactory as could be desired, but until higher grade ore deposits can be developed nothing more can be done than to make the best of our existing discoveries, and trust to an improvement setting in in the quality of the mineral extracted from them.

ALMADA AND TIRITO CONSOLIDATED.—Telegram from Mr. J. H. Clemes, dated Oct. 7: I have remitted you bullion, viz San Francisco, $3000.

PLACERVILLE.—Isaac Thomas, Oct. 2: During the past four weeks the fifth level has been driven north 6 ft., making a total length of 146 ft.

SCOTTISH AUSTRALIAN.—The directors have advices from Sydney, dated Sept 13. The sales of coal from the Lambton Colliery for the month of August amounted to 19,985 tons.

CANADIAN COPPER.—Francis Bennetts, Oct. 14.—All the Hartford and St. Francis Mines there is nothing new to report. At the Acton Mine there is an improvement in the 30 east of No. 5 shaft, the vein yielding some very rich copper ores in large spots. At the Bolton Mine the cross-cut has not yet passed through the vein, but has disclosed a portion of the vein of about 3 ft. thick, composed of mundic and copper ore, a very promising vein.

PESTARENA UNITED.—Oct. 16: Val Toppa: At No. 1 level the cross-cut, west from end on caunter, seems to be entering mineralised ground, and it is hoped the middle branch from flat lode is near. The rise from No. 2 level, on flat lode, is in congenial rock, but gives no ore, and the same may be said of a rise from the Intermediate level under No. 2, on same lode, whilst the winze under it and near it has passed through the branch of quartz seen there, and struck the slide seen in the level below. No. 2 level north, on west lode, still carries a good width of ore of low quality, but the same level south is in sterile rock. The cross-cut west from this has just struck a wall carrying a little pyrites, and we look forward with some hope of its developing into something of value. The Intermediate level under No. 2, on middle lode, has been turned across the rock east to cut the flat lode, and facilitate the extraction of ore from the first lode. No, 3 level end, on middle lode, looks poor, the quartz having diminished both in quantity and value. In the cross-cut east from No. 3 the rise from the No. 4 and No. 5 level end have been temporarily suspended owing to a number of hands having left suddenly to go to Sardinia. The stopes are yielding much as usual, though several are getting short.

Pestarena: As stated in my last, the bottom levels are suspended for the changing of road in the incline shaft. The 90 cross-cut is being continued, and has still a close-grained and hard schist in the end. The 65 end north, on No. 5 lode, has been resumed, and has now entered very congenial ground, so that ore is expected there daily. The same level south is now in a fine lode of solid ore, producing 16 tons of 1 oz. stuff per fathom. The stopes in the back are also producing a large quantity of rich ore. At the 80 north the stopes are improving, and the ore lengthening, but at the 55 fm. level north some new points opened are poor, and give little hope of becoming profitable, except one near the north end, where there is a decent lode. The 83 fm. end on No. 1 lode continues in good ground, but is without ore except, a small bunch of pyrites against hanging wall; a better lode is expected here soon. The same level north on No. 5 lode is now in a good lode, yielding 7 tons of 15 dwts. per ton. This end is now in over the 65 end south, where there is such a fine bunch of ore, and it is hoped the bunch holds through; sinking and rising through must be started to prove this as soon as practicable. The drawing machine will be finally stopped next week, preparatory to lifting out the old machinery and replacing it with the double gear. The road in the shaft and the shoots to the skips have been changed as far as the 70 fm. from bottom, and good progress is being made with the work above. We hope to complete the whole by Nov. 15. A premium of 100 lire has been offered to the men employed for this. A good many men have left the mines during the present month, it being the usual time of starting for Sardinia, and a number also have been away through sickness, so that we are a little short for the moment.

[For remainder of Foreign Mines see this day's Supplement.]

WILLARD CHLORINATION PROCESS.—It is announced that according to the Willard process of roasting auriferous ores for chlorination recently put in successful operation in Calaveras county, California, the ore is crushed dry, then elevated in a screw conveyor and mixer, mixed with sawdust, dampened, and carried to a bin above the furnaces. The bottom of the furnace is a perforated iron plate, and but little fuel is used underneath. The heat is slow combustion and heat by means of the sawdust among the particles of ore. An air-blast underneath the perforated bottom of the furnace forces air through the interstices left in the place of the consumed sawdust, oxidising the metals and preparing them more perfectly for chlorination than by any other process yet devised. Sulphur, arsenic, antimony, and some zinc, are driven off by the air-blast. The roast is a dead one, and entirely free from sulphate of iron. In working silver ore, where a chlorination is wanted, 2 per cent. to 5 per cent. of salt is added. From three to six hours are occupied in roasting, according to ore. After the ore is roasted it is thrown out on the cooling floor and passed through Cornish rolls, and then passed into the chlorination building on the upper floor. The floor occupies one-half the width of the building. On this floor stand ten tanks of 2½ tons capacity, each with false movable bottoms. In these the finely pulverised ore is placed, dampened and chlorine gas introduced underneath by pipes, dissolving the gold and silver. The ore is then covered with water, and the precious metals leached off into ten tanks on the floor beneath, where it is precipitated in the form of a black, salvy mass, three-fourths gold in bulk.

SUDDEN DEATH.—Capt. Martin George, well-known in the West as a mine agent, and for many years at St. Ives Consols, died suddenly at his residence, at St. Ives, on Friday night. He retired to rest at his usual hour, about half-past ten, but had not been in bed very long before he was taken with a violent fit of coughing, and complained of a severe pain in his side. Mrs. George immediately rose and prepared a poultice, and, finding that he became worse, she called a neighbour and sent for the doctor, but before the latter could come Capt. George was dead—the cause being heart disease. The deceased, who was about 60 years of age, was of full habit, and enjoyed general good health.

NEW MINE NEAR FALMOUTH.—The old Swanpool Mine, near Falmouth, is, we hear, to be started, after a lapse of 15 or 20 years, by a London company, under the name of Wheal Kimberley, after the Lord of the land. It may be remembered by some of our older readers that this mine was formerly carried on by Messrs. Barclay, Fox, and Co., some 15 or 20 years ago, who got into a lawsuit with the lord, the consequence of which was that the mine was closed, and never worked since. Before it closed there was sold from the mine silver lead to the amount of 50,000*l.* or 60,000*l.*, and this at a depth of only 80 fms. from the surface.—*West Briton.*

HOLLOWAY'S OINTMENT AND PILLS—EVER USEFUL.—The afflicted by illness should look diseases fully in the face, and at once seek a remedy for them. A short search will convince the most sceptical that these noble medicaments have afforded ease, comfort and oftentimes complete recovery, to the most tortured sufferers. The ointment will cure all descriptions of sores, wounds, bad legs, sprains, eruptions, erysipelas, rheumatism, gout, and skin affections. The pills never fail in correcting and strengthening the stomach, and in restoring a deranged liver to a wholesome condition, in rousing torpid kidneys to increase their secretion, and in re-establishing the natural healthy activity of the bowels. Holloway's are the remedies for complaints of all classes of society.

Mining Correspondence.

BRITISH MINES.

ABERLLYN.—John Roberts, Oct. 27: The Valley cross-cut is producing more blende in the joints and cleavages than it did, but no further change. Set to six men, for 1 fm., at 16*l*. The No. 3 cross-cut is now in a hard dark rock, which I think is the crust that overlies the lode. The No. 2 end is looking healthier than I have seen it at all. If the lead continues, which I believe it will, we shall soon open good workable ground. It is now producing good saving work for the dressing-floors. Set to six men, at 9*l*. per fathom.

ARENDAL.—John Daw, John Daw, jun., Oct. 22: Skytmur Mine: Having been through the mines to-day we are pleased to inform you that the 50 and 60 ends are much improved since I was here a fortnight ago. In the 50 east the lode is 2½ ft. wide, and will yield full 2½ tons per fathom. In the 60 east the lode is 3 ft. wide, yielding 3 tons per fathom, and improving every day. The 60 west is looking more promising, being now in a large quartz lode yielding saving work.—Benson's Shaft: I do not see any alteration to report, the lode being 6 ft. wide, producing orey stuff. We feel sure we shall meet with a good course of ore as the shaft is deepened; present indications show it quite plain. The lode in the different winzes sinking are yielding well, worth from 1, 2, and 3 tons per fathom, opening out splendid stoping ground. In the stopes we do not see any falling off or improvement; they are yielding very satisfactorily.—Boilstad: The water is out, and the drawing of stuff is commenced. We shall not be very long in getting the mine clear, when miners will be set on to break ore as fast as possible.—Machinery: The loading for the large engine is nearly ready, and all the houses in a forward state. We shall be quite ready for the machinery by the time it arrives, or before. Dressing is being so far pushed forward day and night; during the last four days it has been very cold, I never knew it so severe so early. We are hoping to get a change every day. Another cargo of 200 tons is nearly ready; I hope the vessel will soon arrive to take it away By the end of November a similar cargo will be ready for shipment if the weather allows us to clean it. Had we the new machinery ready we could go on all the winter. I do not believe the cold would affect us a bit.

ASSHETON.—Joseph Garland, Oct. 27: In the 50, south of Mawr shaft, we are still cross-cutting the lode, which, at the furthest point reached, yields a little lead and copper ore, and looks more promising than hitherto. The cross-cut in the 60, east of boundary shaft, is not yet through the lode. In the last 2 or 3 ft. driving the lode contains good branches of blende in a hard quartz matrix. We have a pare of men employed in laying the tramway and air-pipes in the 60 east, preparatory to driving this level.

BELOWDA.—J. H. Collins, Oct. 27: There is little to add to last report. The engineers have kept us waiting, but they promise to be ready to start the machinery this week. The tramroad to the inner pit is now completed, and we have six men breaking down stuff for the stamps so that we may keep them going. All the work is being pushed on with a view to beginning to stamp and dress tin for the market within the next three or four days.

BLAEN CAELAN UNITED.—J. Pell, Oct. 28: The weather has been very rough, but good progress has been made with dressing. All the machinery is working well, and very good stuff is coming on to the floor. There is no change underground to notice this week.

BLUE HILLS.—S. Bennetts, R. Harris, Oct. 23: The 80 east end, on the Pink lode, is worth 4*l*. per fathom, and west 3*l*. per fathom. At the Blue Burrow shaft the 42 east end is producing some low-quality tinstuff, but not of much value. The west end, although poor, is looking more promising than for some weeks past. The 30 east is worth 8*l*. per fathom.

BODIDRIS.—H. Hotchkiss, Oct. 26: The course of lead ore in the 17 east fully maintains its value, as reported last week. The 60 east is improving for lead. No other change to notice. I am forwarding to the offices of the company specimens of lead ore from different points.

BWLCH UNITED.—N. Bray, Oct 23: The lode in the 100, driving east, is about 3 ft. wide, made up principally of clay-slate of a stiffish nature for opening, the progress, therefore, being slow, I am not able to report much variation since my last. The stope in the back of the 60 against the slide is yielding good saving work. The new stope in the bottom of the 50, for the extent opened, looks encouraging, and may fairly be valued at 12 cwts. of silver-lead ore per fathom, and a trial stope in the back of the 60 in the same section also bids fair to open valuable stoping ground. Last week I reported a scarcity of water for dressing, but the heavy rain of yesterday and to-day will ensure a supply for several days. The machinery is working well.

CARNARVON COPPER.—J. Roberts, Oct. 27: At the 90 we have made rather slow progress during the past month on account of the hardness of the ground. There are very encouraging appearances in the end, and I cannot help thinking that we are on the eve of striking a good bunch of ore. We have had strong patches and veins of copper in the lode, and the ground has changed from a quartzose to a quartz, and a dark slaty stone, which is always associated with copper in this part. I expect that we shall reach the slide shortly. At Talmignedd we have had very strong indications of copper in the lode, in fact we have had some large stones of good copper in the body of sulphur, and the best part seems to be going down, and I am strongly persuaded that in depth there are rich deposits of copper ore, and the lode in the old mine was just exactly of the same character where it made the large deposits of ore. On the mountain side there had been all the month a very strong lode of sulphur with spots of copper in it—a very kindly lode. We have erected the shears over the new shaft, and are are now building a stand of masonry for the bob. The wedges that are wedging up the roots of the arms of the water-wheel through having decayed got loose last week, and had there not been a good watch kept over the machinery, there might have been serious damage, but it was seen in time and soon put right again, hindering the pumping only a day or so.

CLEMENTINA.—J. Roberts, W. Sandoe, Oct. 27: The stopes have fallen off a little in value since last week. The end is very much the same, producing a little lead.

COURT GRANGE.—Jas. G. Green, Oct. 27: The water was cleared from the 65 yesterday, and the kottom lift of pumps put to work; if all goes well we shall have the 77 clear on Oct. 29, and cross-cutting to the lode resumed. The rise in the 45 has improved; worth 12 cwts. per fathom; it is very probable that we shall have a piece of paying ground to stope here. The stope in the back of the 30 east is worth 14 cwts. per fathom. The intermediate stope is worth 10 cwts. per fathom, but is nearly worked out. The stope in back of the 14 east is worth 8 cwts. per fathom. No. 1 stope in back of the 30 is worth 8 cwts. per fathom. The underhand stope, in sole of the 14, east of winze, which has been sunk to the back of the No. 2 stope in back of the 30, is worth 15 cwts per fathom. The lode in side and back of 14, east of footway shaft, is turning out splendid stuff, worth at present 1 ton per fathom. The tribute pitches are without change. Taking the mine all through I never saw it looking so well. We dressed during the week 3 tons of ore; we have finished the tributers' stuff; it yielded a little over 10 tons, dry weight. We have in store now 10 tons of lead and 14 of blende. This week we have been engaged changing roller shells and overhauling machinery, and shall recommence crushing to-morrow. There is a good accumulation of ore stuff at surface and underground, and there is a plentiful supply of water for all purposes. Good progress is being made with the foundations of engine and air compressor. I hope to get all to work in about four weeks from this date.

CROOK BURN.—R. Scott, Oct. 22: The sinking was commenced on Monday night at 12 o'clock; on Thursday standing eight hours putting in pumps and lowering in set: 2 ft. 6 in. had been sunk up to 8 A.M. on Friday morning. Quantity of water, about 65 gallons per minute. The total depth of the shaft is 12 fms. 4 ft.

DENBIGHSHIRE CONSOLIDATED.—A. Francis, R. Prince, Oct. 27: No. 1 rise, in the 112 east, main lode (near the forebreast) is producing ore of splendid character. No. 2 rise has further improved, and is worth 2 tons of lead to the fathom. We shall now proceed to sink on the bottom of the level, where there is a good course of ore going down, and in this part of the mine we shall have 16 men raising lead. In the sump below the 68 there is a slight improvement in the yield of ore, and the ground is of a very promising character. The tributers are doing about the same as last reported, and we are busy dressing.

D'ERESBY CONSOLS.—J. Roberts, W. Sandoe, Oct. 27: The end driving east from Sutton's shaft is improving; there is now a nice branch of ore from the bottom to the top of the end. The western is rather more kindly than it has been, and showing good spots of lead. There is a very nice rib of ore in the bottom of the winze from the shallow adit.

D'ERESBY MOUNTAIN.—J. Roberts, W. Sandoe, Oct. 27: We shall complete securing and clearing the rise from No. 6 to the sump to-day. We shall then be able to throw down the stuff that has been broken in the stope and in sinking the sump; and then we shall begin in good earnest cutting through the lode at No. 6 and stoping in the bottom of the great sump at No. 5.

— W. Sandoe, Oct. 28: I have just come up from No. 6: it is now four o'clock, we have been at it as hard as possible to try to finish up everything, so as to be able to start blasting the side to go through the lode, but we could not fully complete our job of timbering to do it. Some of the ground was heavier than we were aware of, and it had to be well secured before we could start throwing stuff down. We are all working away up at No. 5 all right, and are breaking a lot of good lead stuff. I hope and believe we shall start blasting in No. 6 to-morrow, when you shall have the results of our work, character of lode, &c.

DERWENT.—J. Morpeth, Oct. 26: Jeffries' Shaft, Middle Vein: The 95, east of shaft, remains almost without change; it still yields 22 cwts. of ore per fm. for the full width, 9 ft. No. 1 stope, in the back, yields 15 cwts.; the vein is 5 ft. wide. No. 2, 13 cwts.; the vein is 3 ft. wide. No. 4, 14 cwts.; the vein is 3 ft. wide. The flats over this level are worth 20 cwts. per cubic fathom. Over the 93, west of shaft, the reespective worth of the stopes is 17, 11, 13, and 12 cwts. of ore per fathom; average width of vein, about 4 ft.—Sun Vein: The 70 east, upon this vein, has twitched up very much during the last few weeks, and is both harder and poorer; present value, 8 cwts.; width of vein, 2 ft.—Westgarth'sShaft—Middle Vein: The stope under the 93, east of shaft, yields 15 cwts. of ore per fathom; the vein is 3 ft. wide. Over the same level, east of shaft, the stopes are yielding 17, 10, 15, 13, 22, and 18 cwts. of ore per fathom respectively; average width of vein, 4 ft.—North Vein: The rise upon this vein, over the 93 cross-cut, opposite Westgarth's, continues to yield 1½ ton of ore per fathom; the vein is 5 ft. wide, but the ground is stiffer, now set at 12*l*. per fathom. The distance risen last month was 2 fms. 3 ft. 9 in.—Middle and Burnshieldshaugh Vein: The stope on the junction of these two veins is 3 ft. wide; value, 16 cwts. This stope is in the back of the 74, 220 fms. west of Westgarth's. The cross-cut in the 68, at the same shaft, was driven in the last two weeks of last month 6 fms. 1 ft. 7 in., and is re-set at 8*l*. 10s. per fathom. I expect before very long we shall cut the north vein in this cross-cut, on the top of Little Limestone Sill. Drawing and dressing progressing without much interruption.

DEVON GREAT CONSOLS.—Isaac Richards, Oct. 28: Wheal Josiah: New South Lode Shaft: In the 130 west the lode is 1 ft. wide, composed of capel, quartz, and a small quantity of mundic. There has been nothing done in the 115 west since last report, the men having been engaged assisting pit and timbermen in repairing the large plunger shaft at Blanchdown.——Wheal Emma: Inclined Shaft: In the 190 east, east of Dawe's cross-cut, the drivage has been continued by the side of the lode. In the 137 east, east of Friend's cross-cut, the cross-course has been intersected and cut into about 5 ft., which consists of quartz, prian, fluor, and stones of good quality copper ore—altogether of a very fine description, and which, in all probability, will beneficially effect the lode wherever the two may come in contact with each other. There are, we expect, several feet more to get through the cross-course, judging from its size where seen in connection with the main lode.—New Shaft, New South Lode: In the 205 west the lode—6 ft. wide being carried—is composed of capel, quartz, peach, mundic, and good stones of copper ore. In Hockaday's winze, in the bottom of the 190 west, the lode is 4 ft. wide, composed of capel, quartz, peach, mundic, and some copper of good quality. In the 175 west, east of Bartlett's winze, the lode, the lode is 4 ft. wide, composed of capel, quartz, peach, and a small quantity of copper ore and mundic, worth 2 tons per fathom. In the 115 east the lode is 4 ft. wide, composed of capel, quartz, peach, mundic, and a small quantity of copper ore. In the cross-cut south at the 100 east the ground continues favourable for progress and is congenial for mineral. In the 90 east the lode is 3 ft. wide, composed of capel, quartz, peach, mundic, and a little copper ore.—Railway Shaft: In Bray's cross-cut south at the 190 the ground continues rather difficult to explore. In the 190 west, the lode is 1 ft. wide, composed chiefly of capel. In the 175 west, west of Floyd's cross-cut, the lode is 2½ ft. wide, composed of capel, quartz, peach, and copper ore, worth 1 ton or 3*l*., and 1 ton of mundic per fathom. In the 160 west, west of Champion's cross-cut, the lode is 5 ft. wide, composed of capel, quartz, peach, and copper ore, worth 1 ton, or 3*l*., and 2 tons of mundic per fathom.—Watson's: At the 75 east and west of the engine shaft the lode is from 2 to 3 ft. wide, composed of capel, quartz, mundic, and a little copper ore.

DRAKEWALLS.—Moses Bawden, Oct. 28: I was underground here yesterday, and find they have nearly cut through the lode to the west of the cross-course, and will now commence boring a deep hole in the bottom of the level to endeavour to drain the old workings more rapidly. At surface the repairs to the whim-engine are almost complete, and we shall in the course of a day or two commence working the same.

DUBBY SYKE.—G. Bell, Oct. 23: Everything has gone on all right with the pumping operations during the week. We can pump 24 hours water out of the shaft in about 2½ hours, and we have standage in the bottom of the shaft that will hold the 24 hours water. We commenced in the level on Monday morning to drive west from the bottom of the shaft, to cut the Green Hurth north and south vein. The level is now driven 2 fms. from shaft bottom.

EAST BOTALLACK.—George H. Eustice, Thomas Trehair, Oct. 27: The choke in the adit is not yet cleared, but we are daily expecting to do so, and reach the end. The large quantity of stuff coming from the back we presume is the point of ground between the two lodes, the junction of the lodes being about the end of the level. At the surface we have cut drains across the hill for the purpose of taking off the large quantity of water which has lately fallen, and which is at this moment falling, and preventing it going down through the old surface workings into the mine. The dividing of the engine-shaft from the surface to the bottom has been completed. The engineers have the winding-cage and pumping-wheel in position, also the foundation bed and cylinder of the engine. The smiths, carpenters, and all others employed are making fair progress in their respective departments.

EAST CRAVEN MOOR.—D. Williams, Oct. 28: The lode in the 65 west is fully 3 ft. wide, and worth 40 cwts. of lead ore per fathom. The lode in the intermediate level, going east, midway between the 65 and 76 fm. levels, is 2 ft. wide, and worth 30 cwts. of lead ore per fathom. Other points improving. We have in course of smelting 40 tons of lead ore at the mill.

EAST ROMAN GRAVELS.—Arthur Waters, Oct. 26: The 109 cross-cut, south-west towards the lode, is being driven as fast as possible. In the 97 south the lode is 3½ ft. wide, and letting out a strong feed of water, but there is no ore at present to value. The 86 south is still worth 1 ton per fathom. The two stopes in back of this level south are worth together 5*l*. per fathom. The two pitches in back of the said level, adjoining the shaft, are worth together 1 ton per fm. No. 2 lode, in the 75, going north from the shale, is 4 ft. wide, composed of carbonate of lime, with spots of ore, but not to value. No. 1 pitch, in back of this level, on the main lode, is worth 2 tons per fathom. No. 2 pitch, 12 cwts., and No. 3 pitch ¾ ton per fathom. The pitch in bottom of the 50 south is worth ½ ton per fathom. The pitch in bottom of the 20 south is worth ½ ton per fm. The pitch in the 6 fm. level north is also worth ½ ton per fathom. We have today sold 40 tons of lead ore for 40*5l*., and 20 tons of blende for 53*l*. 10s., making together 458*l*. 10s.

EAST VAN.—W. H. Williams, Oct. 28: We have sunk the winze 9 fms., but this week are very much prevented by the water, which is very quick. I shall set the men to cross-cut in a day or two. The lode in the winze looks very encouraging.

EAST WHEAL CREBOR.—George Rowe, Oct. 27: The south lode in the 70, west of slide, is 1 ft. wide, producing arsenical mundic, with good stones of ore. The lode in the stopes below the 60, east of slide, is worth 10*l*. per fathom. The north lode in the 70, east of cross-cut, is 2 ft. wide, yielding stones of ore. The lode in the stope below the 60 is worth in places 25*l*. and 30*l*. per fathom.

FORTESCUE (Stannagwyn).—J. H. James, H. Harris, Oct. 27: We have begun to burn the tin. The burning was dead at first on account of the long run of the flues and chambers for catching the arsenic being damp, but the draught got better as the air dried, and they are working all right now, so we shall soon be ready with tin for the market. The bottom level, going east on main lode, continues in rich tinstone. The stopes are turning out their usual quantity and quality of work for the stamps.

GAWTON COPPER.—Geo. Rowe, G. Rowe, jun., Oct. 23: The lode going east at the 117 is nearly 18 ft. wide, where we have discovered a fine branch of rich quality ore on the south side, worth 12*l*. per fathom, and showing every indication of improvement. The lode in the 105 east is improving in size, and producing 4 tons of arsenical mundic, mixed with ore, per fathom. The lode in the stope below the 105, is going down 14 ft. wide, worth 40*l*. per fathom. No. 2 stope, in the bottom of the same level, east of winze, is worth 12*l*. per fm. The lode in the stope in the back of the 95, is worth 8*l*. per fathom.

GLASGOW CARADON CONSOLS.—Wm. Taylor, W. J. Taylor, Oct. 26: The sinking of the engine-shaft below the 102 is progressing fairly, and is being pushed on as fast as possible. The 102 east is producing stones of ore, but not much to value; ground more favourable. No lode taken down in the 102 west since last report. In the 90 east, on north lode, the ground continues hard, and lods small and poor. In this level west the ground is easier, and lode producing a little ore, with a more kindly appearance; we hope to see it improve soon; we had a good lode of ore in the 78 over and before this end. We are still opening on the branch in the 90 cross-cut south; it is small so far, but we shall prove it on a little further. The stopes and pitches, on the whole, are about the same as last reported, hardly turning out so much ore.

GORSEDD AND MERLLYN.—W. Edwards, Oct. 27: In the 70 yard level east we have passed through another joint since our last report, containing both lead and blende, and letting out water freely. We must be very close to the east and west lode, and if indications go for anything a great deposit of lead must be found. The men that I have placed in the 70 west, to drive south on the north and south vein, are getting on well, and we are beginning to meet with lead ore. The tributers on the north and south vein continue to raise splendid ore, and the other bargains look well. We have sold to-day 15 tons 16 cwts., at 10*l*. 10s. per ton.

GREAT HOLWAY.—W. T. Harris, Oct. 27: During the past week the men have been sinking the shaft through the new discovery reported, and they have obtained splendid lead ore from the joint, which carries great strength. When we are enabled to drive north and south on this vein I undoubtedly think we should open up an extensive run of ore ground, but our main object now is the speedy sinking of the shaft to the 110, when cross-cuts will be put out to intersect this lode and the great east and west vein, and every indication points to a very profitable result.—Garden Shaft: The lode in the winze sinking below the 55 is producing 1 ton of lead ore and 1 ton of blende per fathom.—Level Engine-Shaft: No. 1 pitch, in the back of the 60 west, is opening out well, now yielding 2½ tons of lead ore per fathom. No. 2 pitch has also improved, now producing 1½ ton lead ore and 1 ton blende per fathom. You will observe our underground operations are much improved, and at present yielding largely both of lead ore and blende. Surface works and building of crusher, &c., are proceeding with all possible speed, but have been so much retarded this week in consequence of the unfavourable state of the weather. The engine is promised this week.

GREAT LAXEY.—F. Reddicliffe, Oct. 27: The lode in the 259 end, driving north of Welsh shaft, is still of large size and very promising appearance, and is at present worth 6*l*. per fathom. The 247 end has every appearance of being now through the "nip" of poor ground, for the lode is taking form again and also beginning to be productive, value at present being 8*l*. per fathom. In the 235 end there has been an improvement during the past week, but just at present is not so good again; present value, 20*l*. per fathom. The winze recently sinking in the 220, near Welsh shaft on the north, is deep enough to hole to the 235, but there being a branch of the lode at the latter level remaining to be taken down, the men have been sent there to open up the lode fully and affect a communication; the present value is 25*l*. per fathom. The lode in the 220 end is worth 12*l*. per fathom. The men lately working in the winze and stope in the 140 south have been put to rise immediately underneath—in the 165—with a view of holing to the former place if the lode was found sufficiently productive to warrant it; a good lode for a short length is now bing worked upon.—Dumbell's: There is not much ore in the portion of lode carried in driving the 230 north; but it is, nevertheless, very promising, and I doubt not the end will be in a good run of ore very shortly. The 200 end is worth 40*l*. per fathom. The winze sinking in this level has entered the ore ground, and is now worth 40*l*. per fathom. The rise in the 155 is become quite poor and suspended, and the men put to stope from the roof of level, where lode is worth 15*l*. per fathom. The lode in the 85 end is improving in character and producing saving stuff, and there is every prospect of entering another bunch of ore here shortly. The is no change of importance in any of the other workings since our full report. The additional air-compressing machinery and rock drills will be ready for trial-start to-morrow, and we hope to be fully under way by the end of the week.

GREEN HURTH.—W. Vipond, Oct. 22: The 31 south from Swan shaft has slightly improved since last report; it is worth at present 10 cwts. of ore per fathom; it still continues hard. I shall put these four men to stope the sole of the 30 south from Vipond's sump, where we have rich ore to begin with. The stope in the sole of the 30 north of Swan shaft is rather improving; it is worth about 15 cwts. of ore per fathom; I think 3 or 4 fms. further on we shall get into richer ground in this level. The work will go from this next week to the Swan shaft. The stope in the sole of the 30, north of Vipond's sump, continues to yield 1¼ ton of ore per fathom. The stope above the 30, near Robinson's sump is now yielding 2 tons of ore per fathom. Stope No. 5, above the 30, is yielding 2½ tons of ore per fathom, and driving south from Vipond's sump at the random of No. 4 is also yielding 2½ tons of ore per fathom. If the end of the connecting rod comes to hand to-day I shall get four men to drive from bottom of Swan shaft on Monday, and four men more perhaps the week after.

— Wm. Vipond, Oct. 27: The stope in the bottom of the 30 north from Swan shaft is still poor, yielding about 15 cwts. of ore per fathom, but showing indications of improvement. The stope started this week in the sole of the 30 south from Vipond's sump is yielding 6 tons of ore per fathom, and we have only about half the width of the vein yet at this point; it will make a splendid working this as soon as we get it the full width. The stope in the sole of the 30, north of Vipond's sump, is still yielding 2 tons of ore per fathom. The stope above the 30, near Robinson's sump, is now yielding 1½ ton of ore per fathom; it is scarcely so good this week as we had it last. Stope No. 5, above the 30, is only yielding 1 ton of ore per fathom at present, but the vein is hading so much to the east that I do not think we have all the vein at present. The driving south from Vipond's sump at the random of No. 4 stope is yielding 2½ tons of ore per fathom. We have made a start with driving from the bottom of the shaft, but have not got much done at it yet; I shall have to put the men to this in the afternoon and night till they get clear of the shaft, as we shall be drawing work now from the stopes in the first shift.

GWERN-Y-MYNYDD.—A. Francis, Oct. 28: Deborah: Our south cross-cut in the main flat has intersected what we believe to be a leader into an ore run, at least we so judge by its appearance and the beautiful ground in same. We have, therefore, diverted the driving in that direction, which has an east and west course. In a week hence we shall be able to report upon it with greater certainty, but we believe the indications point to an early success. The cross-cut north in the same flat is equally encouraging, and I am firm in the conviction that Deborah will become one of the richest mines in Flintshire ere long.—Treasure Shaft: Our surface works have been retarded during the last two days by heavy rains, but the chimney is finished, and the boiler seating in course of being built. The pumps are ready to be lowered, the cistern fixed in shaft, and the rods are in a forward state, so that we expect to start in stripping the shaft in a fortnight or three weeks' hence. The main adit driving is being continued, and the progress satisfactory, and when the water is out of Treasure shaft to level to communicate with same, and already driven several feet, will be resumed. as well as the clearing and opening of the old adit towards Gwern-y-Mynydd west.

HINGSTON DOWN.—T. Richards, Oct. 27: The No. 1 lode, in the deep adit level, east of the south cross-cut, is composed of gossan, capel, quartz, peach, prian, and mundic, and producing some very rich stones of copper ore. The No. 2 lode, in the deep adit level, east of the south cross-cut, and east of the cross-course, is without important change, and still producing a little blende and yellow copper ore. The shaftmen have completed the sundry work, squaring down the shaft, cutting ground for plunger-lift, railway, &c., and have commenced cutting ground for cistern and sinking the shaft below. The surface work is still going on favourably.

LADYWELL.—Arthur Waters, Oct. 28: In the adit, driving south of the cross-course, on the west part of the main lode, the country rock is more rusty (showing more gossan) than last week, and the lode itself has begun to yield lumps of ore, and is of a promising character. There is no change in the rise and stope in the back of this level worthy of remark.

LEAD ERA.—J. A. Ede, Oct. 27: Our progress in the adit for the week has been impeded to some extent, consequent to the heavy fall of snow, which, filling up the small interstices in the rock of the country, has obstructed the passage of air to the mine. A thaw has, however, set in, and by Saturday I anticipate we can resume operations here. In the meantime, I have placed the men at Willow shaft to drive the cross-cut. We cut another north-south joint, which I thought might be the Willow lode that we were near.

LLANDEGLA.—H. Hotchkiss, Oct. 26: North Lode: I am pleased to say that the ore east of the rise continues to improve as we go in this direction—there being now a rib of ore nearly solid for 4 ft. in length, und will vary from 2 in. to 6 in. in width. This I consider a very promising course of ore for the depth we are now at, which speaks well for the richness of the lode as depth is attained. I will forward to the company's offices to-morrow samples of the ore taken out of this lode to-day.—New Shaft: Have not passed through the dark ground here yet; consequently, there is no change to report this week.

LOMAX.—W. Argall, Oct. 27: During the past week the men have put up a rise on the Tatie Pie lode, and holed to surface; they are now engaged in cutting it down, and I propose making it the footway and drawing shaft. We shall, I think, open up some good lead ground in this direction. On Thompson's lode there is nothing new to report.

LOVELL (THE).—J. Prisk, Oct, 28: The lode in the winze, sinking below the 40 east of Hownan's shaft, is now 10 ft. wide, looking quite as well or rather better than when last reported; at 25*l*. per fathom. I am please to say we are now in a good position for opening up the mine in depth, and the appearance of the lode is very similar to what the lode in the adjoining mine (East Wheal Lovell) was when it commenced to make rich and take its regular dip, which was also at the same depth as we are (40 fm. level); other points of operation are about the same as last reported.

MELLANEAR.—John Gilbert, Oct. 27: We have intersected a branch 1 ft. wide in the 30 cross-cut, driving north of Gundry's shaft, which will produce ½ ton of copper ore per fathom, but we calculate there is still a little further to drive to cut the south part of the lode. The lode in the 40, west of Gundry's shaft, driving on the south-east part, is 2½ ft. wide, and producing 2 tons of ore per fathom. The lode in the 50, west of shaft, driving on the south-east part, is 3 ft. wide, and producing 2½ tons of ore per fathom. The lode in the 50, driving west of cross-cut, on the south-east part, is 3 ft. wide, and producing 1½ ton of ore per fathom. The rise in the back of this level, east of cross-cut, is producing 2 tons of ore per fathom; this rise is up nearly 9 fms., and has been in a good lode for the whole distance. The lode in the 60, driving west of shaft, on the main lode, is 2 ft. wide, and producing some good stones of copper ore, in very easy ground for driving. The winze in the bottom of this level, in the south-east part of the lode, is producing 2½ tons of ore per fathom. The lode in the 70, west of shaft, driving east on the south-east part, is 4 ft. wide, and producing 1½ ton of copper ore per fathom, and some good stones of lead and blende. The lode in the 80, west of shaft, is 2 ft. wide, and producing 1 ton of ore per fathom. There is no change in the 90 cross-cut west of shaft, but we are expecting daily to meet with the south part of the lode. The winze in the bottom of this level, west of shaft, is yielding 2 tons of ore per fathom. The lode in the 100, west of shaft, is 5 ft. wide, and producing 1 ton of ore per fathom. The lode in the 110, west of shaft, is 3 ft. wide, and producing 1 ton of ore per fathom; this end is getting very much wetter, and we are hoping it will improve again very soon. Gundry's shaftmen have cut the ground for bearers and cistern, and have almost completed fixing the standing bucket-lift in the 110; we expect in about a week's time to resume the sinking of this shaft. The part of the lode carrying in sinking the old engine-shaft below the 100 is 2 ft. wide, producing occasional stones of copper ore, and letting out a good deal of water very freely. There is nothing new in any other bargain since the last report.

MORFA DU.—T. Mitchell, Oct. 28: Operations are going on in the usual regular order here. The stoping points are yielding fairly well. The lode in the drivage by the White Rock shaft is improving as we open west on its course. The end is looking very kindly.

MOUNT CARBIS.—George Johns, Oct. 28: The lode in the 27 east is worth 50*l*. per fathom, and opening a valuable lode, the best part being in the bottom of the level. All other places without alteration.

MYNDD-GORDDU.—J. G. Green, Oct. 27: The engine-shaft has been deepened 3 ft. during the week, now down 28 ft. 6 in. below the 34; a more compact part of the lode is underlying from the north side, which, although harder for boring and blasting, will, I think, save us the trouble and expense of timbering. The two stopes in back of the 34 have further improved, worth for lead and blende ores 23*l*. per fathom, the No. 1, however, being perfectly free from blende, the lead being very pure, and embedded in felspar and clean slate rock. In the winze in course of sinking below the 24 is worth for lead and blende ores 5*l*. per fathom. We are in the heart of a great lode, composed principally of hard crystallised quartz and a splendid mass of gossan and carbonate of lime—a true indication of a rich lode. The stopes in the sole of the 12 are worth together 12*l*. per fathom. There is promising lode in the 12 west, containing spots of lead and blende. Dressing has been pushed on with good results, and the machinery is in first-class order throughout. There is a good supply of water, notwithstanding the long spell of dry weather. To-day there is a storm of sleet and rain prevailing. We have sold to Messrs. Vivian 30 tons of blende, at 4*l*. 15s. 10*d*. per ton, realising 143*l*. 15s., and are engaged delivering same. We have also sampled 20 tons of first-class quality silver-lead, for sale on the 30th inst.

NEW PENROSE.—John Curtis, Oct. 26: I have dialled the deep and shallow adit, and find the winze being sunk below the shallow adit is not on the lode driven on at the deep adit. I have put the men to drive on it, and it will be reached in less than 3 fms. driving.

NEW WEST CARADON.—N. Richards, Oct. 27: The ground in the cross-cut south of Hallett's shaft is a little stiffer for driving, and changing in appearance, and looks as if we were getting near a branch, for I can scarcely think we are very near a lode, except it is heaved by the cross-course. We have finished casing and dividing Hallett's shaft, and the skip-road is nearly completed. All the other places are just the same as stated in last week's report.

NORTH D'ERESBY MOUNTAIN.—R. H. Vivian, Oct. 28: Yesterday and to-day we have had such a quantity of snow and rain that we have been obliged to leave the shaft; the water came so fast that the men could do nothing but draw water, so I have put them to blast down a large piece of the lode on the hanging-side of the rise, just under where the shaft will come through; this part contains some nice lead ore. No. 2 adit end is now in a large lode, 5 to 6 ft. wide, composed of lime, spar, blende, and lead ore; of the latter very kindly stuff, with every appearance of further improvement; we are certainly entering on another run of lead ore ground. I will, in the course of a few days, let you know how far this end is from the shaft on the hill.

NORTH HERODSFOOT.—T. Trelease, Oct. 28: Our shaft is now cleared down to the back of the 60 plat; we shall take up all the water we possibly can of this level, and then proceed to clean up the shaft to the 70, which we hope to accomplish in about a fortnight. The men belonging in the 50 have been engaged during the past week in securing the 14 between the footways, and have taken away a piece of lode below the 14, which has produced some very good work for silver-lead. We shall resume the clearing of the 50 as soon as the surface water drains sufficiently to take out the dam.

NORTHERN.—Thos. Tonkin, Oct. 27: At the 42 the tribute ground west section is producing 1¼ ton of lead ore to the fathom, and as these stopes are extensive, I look forward to a long run of prosperity. We have got into the plate above the lime sill in the rise in west section, and we shall now drive at the bottom of the productive sill to lay the ground open for stoping. The tribute pitch, west section, yields 15 cwt. of ore to the fathom, and the ground is easy. We are making fair progress in driving forward the 42 east section; 9 fms. were driven last month, and I have again set the ground at 45s. per fathom; the lode is strong and masterly, the gangue chiefly calc spar, and it produces some good stones of ore. I have two men driving forward from the winze, east section (at 35s. per fathom), for laying the ground open for stoping and ventilating as we proceed. At the 25 I have set two men to put in a cross-cut to the side vein, west section, and they have cut into some productive ground, yielding at present 15 cwts. of ore to the fathom, with every prospect of improvement; this is being worked at 60s. per fathom. At the 15 the stopes in tribute ground, west section, are yielding, in easy ground, 8 cwt. of ore to the fathom. The tribute ground, east section, gives a yield of 10 cwt. to the fathom. The cross-cut to the 30 east section is still in very hard ground, composed of carbonate of iron and quartz, with a little copper and lead ores. At the adit level there is no change to notice in the tribute stopes here, the yield being 8 cwts. of ore to the fathom. Notwithstanding frost and snow, we are making fair progress in driving, and the machinery is in good working order.

PANDORA.—H. Nottingham, Oct. 27: The new lode in the 48, driving north of engine-shaft, is looking well, and worth 2 tons of lead to a fathom. The end level going north is not quite so good (more ryder ground in the end); worth 1½ ton of lead to a fathom. This course of ore has, for the length opened on it, yielded fully 2 tons of lead to a fathom. The 33 end being communicated with the No. 3 winze, we have suspended the driving on this, the footwall part of the lode, and hartered to drive with the hanging-wall of the lode, which is gone 5 fms. back from the end. This point of rhyder, which was met with at the 33, has thrown the lode so wide at this level that we are not certain yet which part it will be best to follow by driving. A stope started south of No. 2 winze is worth ½ ton of lead and 15 cwts. of blende, and the stope south of No. 2 is worth 15 cwts. of lead and the same of blende to a fathom. We have been side-stringing the No. 1 stope for a week; we now resume stoping, worth 1 ton of lead and ½ ton of blende to a fathom. I have started four men to drive north of engine-shaft, and fully expect that when this driving strikes the run of ore ground now in with in sinking the shaft to the 45 that we shall have a good-paying lode at this level also.—Godardd's Lode: We have no further change in the cross-cut driving east. I calculate it will take us another month to reach the lode before us. A stope north of No. 1 winze over this level is worth 15 cwts. of lead per fathom. The tributers above the 23 are doing pretty well at about 13*l*. per ton. The surface we are to-day all but blocked up with snow. I sent out samples yesterday of 30 tons of lead and 25 of blende.

PARYS COPPER.—T. Mitchell, Oct. 28: The 90 south continues to go forward; we now observe faces of blende in the joints, the presence of which is considered a favourable indication in this part of the mine. The end driving forward

Colonel's shaft is progressing very well, and the men working in the shaft are being heard more distinctly every day. The sinking of Colonel's shaft is going on favourably. We have broken some good stones of copper ore from the bottom this week, and the ground is getting to look like lodey stuff. We expect soon to meet with this run of ground in the end coming under the shaft. The trial cross-cut driving south, east of Gwen's shaft, is going forward in promising ground. We have just passed through a small branch of spar, strongly spotted with yellow copper ore. The tribute pitches continue to look pretty well.

PATELEY BRIDGE.—D. Williams, Oct. 28: All the ore producing points in this mine are looking exceedingly well. Our produce for this month will be from 30 to 35 tons of lead ore, raised and dressed by 24 men.

PEN-YR-ORSEDD.—G. Belles, R. Prince, Oct. 27: The ground in the 122 north cross-cut, which the men are now passing through, is of the same character noticed in this district before the intersection of a lode; joints of spar cross the end, so that we expect very shortly to report to you the intersection of the lode, and that it has been found rich. In the cross-cut south, at bottom of shaft, in the 150, we have passed through several ribs of spar running east and west, so we have every reason for expecting to cut the lode in this direction, and to have a long run upon its course, which should make this a splendid mine.

PENHALLS.—S. Bennetts, R. Harris, Oct. 23: There is not much change to notice in the rise above the 80; the lode continues a good width, but poor. The south part of the lode in the 70 east is small and unproductive. The 60 east is worth 8l. per fathom. The 55 east is worth 5l. per fathom. The 50 west is worth 7l. per fathom.

PHŒNIX AND WEST PHŒNIX UNITED.—Oct. 28: The improvements previously reported as having taken place in the 100 end, east of cross-course, 30 end west of old sump, the 30, east of cross-course, and the 40, west of new engine-shaft, we are pleased to say still continue, the lode being worth on the aggregate 100l. per fathom. We are also glad to report an improvement in the 80 end, west of cross-course; we have cut into the lode 1 ft., and find it yields good stones of tin, being of a very encouraging character. No other change to notice.

POLROSE.—W. Bennetts, C. Roach, Oct. 27: We are pleased to say that the Margaret lode, in the 90 west, is fully maintaining its size and character as reported last week, and is producing good saving work for tin. The men are still making good progress with the 90 cross-cut north, where the ground is of a most congenial character, and favourable for driving. The end is letting out an increased quantity of water. In the 90 cross-cut south we have just intersected a branch which we suppose to be the one we had in the shaft about 4 fms. above the 90. If it is the same, we have met with it sooner than we expected; it is not underlying so fast as it was when it left the shaft, and therefore it may fall into the lode again in depth. We shall push on this cross-cut with all speed.

PORT NIGEL.—Since last report no important change has taken place, excepting the 68 end east, which is again opening up lead ground. A full report shall be sent for next week's Journal.

PRINCE OF WALES.—J. Andrews, Oct. 27: The shaftmen are busily engaged fixing 12-in. plunger at the 77, which they hope to complete by the end of the present week. We have resumed the driving of the deep adit cross-cut north, but there is no change in the end since last reported on.

ROMAN GRAVELS.—Arthur Waters, Oct. 28: I see no change worthy of remark in the various ends in this mine since my report of last week. The stopes generally are quite up to the average values given during the last three months. We have had heavy snow and rain the last two or three days, but our pumping power is equal to all our requirements.

SOUTH DARREN.—Henry James, Oct. 28: In the shaft below the 120 we are taking down the lode to its full width—5 ft.: it is composed of a nice spar, with a good mixture of lead and copper ores, being worth about ¾ ton lead and 10 cwts. copper ores per fathom. The lode in the 110 end west is worth 1 ton lead ore per fathom. In the 100 end west the lode is 1 ft. wide, with a little mixture of lead, but not sufficient to value. There is no change of importance in any of the other workings since last week. All the copper ore sold on the 12th instant is at Aberystwith awaiting shipment. The machinery is in good working order, and we have a fair supply of water for all purposes.

SOUTH TOLCARNE.—Thomas Angove, James Knotwell, Oct. 27: We have intersected the flat lode in No. 2 cross-cut, and driven about 3 ft. into it; the character of the lode is much the same as seen in No. 1 cross-cut—we cannot report its value until we explore it further. We are making good progress in sinking the engine-shaft below the 50.

TAMAR.—R. Goldsworthy, Oct. 26: The lode in the 27 south is improving in size and character; now about 2 ft. wide, and producing good stones of silver-lead—a very promising lode. The stope in the back of the 37 south still maintains its former size and value—2 ft. 6 in. wide, producing 4 cwts. of silver-lead and 3 tons of good fluor-spar per fathom. There is no other change to notice.

TANKERVILLE.—Arthur Waters, Oct. 28: The 220 west is at present up to the junction of a lode which has come out of the foot-wall side of the drivage; the value of the end is just as when last reported on. We may expect an improvement almost directly here, for Robert's lode, which will come out of the hanging side, cannot be far off. The 220 east is now forth to a lode, 6 ft. wide in middle, of which there is a small cavity out of which comes a good flow of water. This end looks like entering the shale bunch, which must be close at hand. The stopes in back of this level, and those in bottom of 206 are yielding ore up to last week's valuations. The 206 cross-cut, going south from main lode, has not yet reached the south lode, but from the look of the ground in the forebreast I think we must be near the object of our search. The 182 on north and south lode is yielding good stones of ore, but the ore-course seems at present to be disordered by a cross joint. The stope in back of this level is worth 1 ton per fathom. The tribute department is yielding ore up to the average of the last three months. We have to-day sold 60 tons of No. 1 quality for 607l. 10s., and 15 tons of No. 2 quality lead ore for 120l. 15s., making together 728l. 5s.

TEMPLE.—Oct. 25: The cross-cut at No. 2 level has now passed through the lode alluded to in last week's report; it is found to be 6 ft. in width, and contains quartz and carbonate of lime, but at the point of intersection no lead is to be seen. The lode is well defined, and of a very favourable appearance, and would probably be productive in depth; the cross-cut is being pushed on with the view of cutting the Champion and probably another lode as soon as possible.

TREVINCE CONSOLS.—John Mayne, Oct. 28: Our operations during the past week have been principally confined to the new discovery, where the lode is fully 12 wide, composed of mundic, gossan, and prian, intermixed with copper ore, and improving as depth is attained; this lode is close to the large elvan, the influence of which is, I think, having a most beneficial effect upon it. I look upon this as a most important discovery.

TYN-Y-FRON.—E. Jones, Oct. 27: We have cleared the underhand stope east of the winze, which we find to be very rich for blende and lead, it having improved very much to what it is in the stope above, in back of the level. It will produce fully 3½ tons of rich blende and ½ ton of lead per fathom. I believe this leader of lead is the same, and holds not only up to the cross-cut south, where we had our best discovery of lead, but for a considerable distance further east, as we have stripped down the side and find a good mixture of lead all along, although nothing like so good as it is now in the bottom. The clearing the underhand working having drained the lode for a long distance eastward, I found a little spot of lead in bottom of the adit level, about 25 fms. east of the winze, about 2 in. long, which looked so promising that I thought I would open upon it a little, and in doing so I find that in sinking only 18 in. it has increased increased in thickness, and is above 3 ft. long; and if it continues to improve and lengthen as it goes down as it is now doing, it will be a very great improvement, and an increase in value of the mine. We shall continue to work on it this week to prove it further, and if you wish it I will send you some specimens of the lead, which I think you will be pleased with, on Monday.

VAN CONSOLS AND GLYN.—James Roach, Oct. 27: The cross-cut south at the 60, west of Murray's shaft, has been driven into the lode 21 ft.; the last 8 ft. contain cubes and branches of lead in sufficient quantities to pass through the dressing machinery. To-day I had two holes blasted beyond the distance described above, which exposed solid slabs of lead 2 in. thick, as well as ore intermixed in the veinstone. We have yet a great portion of the lode to drive through, which in all probability will yield increased quantities of lead. The 60 west is driven west of winze 4 fathoms on the north wall of the lode; water percolating from the forebreast—ground becoming more congenial for lead, and containing small plates and a slight mixture of that ore. The cross-cut at the 46 fm. level, east of Gundry's, has been driven south in the lode 45 ft. In the breast there are still strings and cubes of lead, associated with crystallised limespar; not yet any indications of the south wall being near at hand. The cross-cut north at the 50, west of Murray's, has been driven into country ground—therefore suspended—and the men placed to drive the 40 west on the north part of the lode, which I will refer to in my next. The stopes—four in number—in the roof of the 50, west of Murray's, have not been so productive as usual during the last few days; they frequently fluctuate in produce, and to-day seem to be improving again. Machinery and plant all in good order. Dressing and all other work going on as usual. We have 20 tons of lead and upwards to surface.

WEST ASSHETON.—J. Gariand, Oct. 27: The sinking of the Boundary shaft below the 80 is proceeding with the usual regularity. The ground in the 70 west is a stiff clay slate; the lode is regular and the part carried to 2 ft. wide, containing a little copper and lead ores. The intermediate level, driving west from the 60 footway rise, is going forward speedily; the lode has not yet been taken down. This last remark applies also to the lode in the 40 west, in which fair speed in the driving is being made. No. 2 stope, in the back of the 40, is again valued at 3 tons to the fathom. No. 7 stope, in the back of the 40, yields 1 ton of lead ore to the fathom. No. 3 stope, in the back of the 30, yields 7 cwts. of lead ore to the fathom. The various tribute pitches are without change.

WEST CARADON.—N. Richards, Oct. 28: Vivian's north lode in the 38, west of Hallett's cross-course, is at present in disordered ground; consequently there is a falling off in value. This I regard as only temporary, but the rise in the back of the 50 and also in the adit level on this lode are a little improved. No other change to notice in the underground department since my last. At surface we are busily engaged building bob-stand, crusher-house, &c. The boiler is on the mine, and the engine-house ready to take the engine as soon as delivered. All the surface work is being pushed on as fast as the weather and the nature of the work will admit.

WEST CREBOR.—J. Andrews, Oct. 27: We have not made very good progress in sinking the engine-shaft during the past week, owing to the heavy rains, which has much increased the water in the shaft; but when the rain ceases the shaft will be again almost dry.

WEST DEVON GREAT CONSOLS.—George Rowe, Oct. 27: The Alice lode in the new shaft is 3½ ft. wide, producing mundic and copper ore, with fine stones of tin; showing a very kindly appearance.

WEST HOLWAY.—R. Rowlands, Oct. 27: Ram Shaft: We have for the present suspended the re-opening of this shaft, and at the present bottom have driven south about 2½ yards; I intend continuing this another 1½ yard before commencing to cross-cut. The shaft will be made thoroughly safe, and we shall have ample room to lodge the stuff.—New Shaft: We have been busy preparing for the resumption of sinking below the 95, so as to reach the 110 with as little delay as possible. At the 95 the levels east and west improve as we get away from the shaft, and I am anxiously looking forward to shortly intersect in the 95 east the run of ore passed through in the 80 above. We are now riding up in the roof of the 80 to prove the ore ground reported on at the meeting, and the lode so far is worth 2½ tons of lead per fathom. In the rise in the roof of the 80 west the lode is worth 1½ ton of lead per fathom.—Dressing Floors: We have weighed into the shed 4 tons 13 cwts. of lead, and have about 2 tons undressed, which will be daily added to now that we are able to carry on our present bargains. This in every way looks highly satisfactory.

WEST KITTY.—Wm. Vivian, Oct. 26: I beg to inform you that the prospects of the mine are much the same as they have been for the past month. The lode in the 72 east is worth 12l. per fathom. In a rise in the back of the 72 the lode is worth over 10l. per fathom. In the 72 west the lode is improving; at this point we have broken some good stones of tin in the past week. We have about 3½ tons of black tin on the mine, but on account of the dry season we have not had water for our stamps to return the tin. We have now a full supply of water. I hope to have about 3 tons ready for the market in a month from this time.

WEST PATELEY BRIDGE.—D. Williams, Oct. 28: The south cross-cut from the 67 is now within 3 ft. of reaching Craven cross-vein. The face of our cross-cut during the last few days has become much easier to work, and letting out water freely, indicating that we have in front a large porous lode. The vein in the 56 north-west is 3 ft. wide, carrying gossan, spar, and lead ore worth 3 tons per fathom. The stopes throughout the mine are yielding ore as for some time past.

WEST VOR.—S. Harris, Oct. 28: We have not taken down any of the lode for the week. The lode being large and rather hard we find it difficult to take down short pieces and prefer driving on by the side of it, and take down the whole against next week, when I hope to be able to report a farther improvement.

WEST WHEAL TOLGUS.—Oct. 28: The lode in the 155, driving west of Taylor's shaft, is 5 ft. wide, and continues to yield ½ ton of copper ore per fathom. The lode in the 145, driving west of shaft, is 3 ft. wide, and yielding 1 ton of ore per fathom. The lode in the 135, west of shaft, is 2 ft. wide, composed of carbonate of iron and good stones of copper ore.—Richards' Shaft: The lode in the 105, driving west of shaft, is 2 ft. wide, yielding stones of copper ore and mundic, looking very promising. The lode in the 95, west of shaft, is 2½ ft. wide, and occasionally yielding some rich stones of copper ore. The lode in No. 3 rise, in the back of this level, is yielding 1 ton of ore per fathom. The lode in the 85, west of shaft, is 3 ft. wide, yielding some saving work for copper ore, and still letting out a good deal of water. There is no change in the 65 cross-cut driving south. The stopes throughout the mine are looking much the same as when last reported, except the one in the bottom of the 125, on the south part of the lode, which has declined a little in value, being now worth 2½ tons of ore per fm.

WHEAL COATES UNITED.—W. H. Martin, Oct. 22: Driving: The 80 west end is extended from shaft 8 fms., driving by six men, at 8l. per fathom; the last 6 ft. driving we intersected a small deposit of black and grey copper ore, similar to that we met with in the 50 west level; in a few feet driving we expect to get through it. The 80 east end is extended from shaft 4 fms. 3 ft. driving by six men, at 8l. per fathom, the lode producing a little tin, but not sufficient to value. The 70 east end is driven from shaft 27 fms., driving by six men, at 5l. per fathom; since we holed the 50 west we put two men more in this end to force on the drivage; lode worth for tin 7l. per fathom. The 70 west end is driving by six men, at 6l. 19s. per fathom, worth for tin 11l. per fathom. The 60 west end is driving by six men, at 5l. per fathom, worth for tin 10l. per fathom. The 50 west end is driving by six men, at 5l. per fathom, worth for tin 8l. per fathom. Stoping in back of the 70 west, by six men, at 5s. per ton of tinstuff. Stope in back and side of the 70 west, by six men, at 6s. per ton of tinstuff. Stope in bottom of the 60 east, by six men, at 4s. 9d. per ton of tinstuff.—Tribute: A pitch in back of the 60 west, by six men, at 9s. 6d. in the 1l. A pitch in back of the 50 west, by six men, at 10s. in the 1l. A pitch in back of the 50 east, by six men, at 11s. in the 1l.

WHEAL CREBOR.—G. Rose, H. Phillips, Oct. 26: The south part of the lode, in the cross-cut at the 120, is cut into 2½ ft. (not through it), producing fine stones of copper ore, altogether of a very kindly appearance. The lode in the stope in the back of the 120 east is worth 30l. per fathom. The lode in the stope in the back of the same level (120), west of winze, is worth 40l. per fathom. The lode in the rise going upon the back of the 108, on the south part of the lode, is worth 70l. per fathom. The lode in the stope in the back of the 108, west of rise, is worth 50l. per fathom. No. 2 stope, in the back of the same level, east of said rise, is worth 80l. per fathom. No 3 stope, in the back of the same level east, is worth 40l. per fathom. We are taking down the lode in the 60, east of the new shaft, and find the lode over 6 ft. wide, producing large rocks of rich silver lead mixed with good quality copper ore. The new shaftmen are engaged in cutting ground and preparing to sink the shaft below the 70, where a small drawing lift is likely to be required if we cannot prevent the water from going into the shaft. All other points are without change.

WHEAL GRENVILLE.—T. Hodge, Oct. 26: Goold's shaft is nearly 12 fms. below the 178, going down in a very good channel of ground. The 178 west end is worth 10l. per fathom. The 178 east end produces stamping work. The 165 east end is worth 15l. per fathom. The 150 east end is worth 12l. per fathom. The 140 east end is worth 14l. per fathom. On the whole, our stopes are not looking quite as well.

WHEAL JEWELL.—W. T. Bryant, Oct. 26: Setting Report: Saturday last being our pay and setting we let the following bargains:—The engine-shaft to sink, by nine men the month, at 30l. per fathom. Having all the water at the bottom makes it expensive and spare for sinking. In my last report we were cutting into the north side of the shaft to ascertain the nature of the lode in that direction. After driving 5 ft. we intersected the cross-course, and at once suspended it. The portion cut into produces copper ore, but not profitably productive. Since we resumed sinking the lode has inclined to the south considerably. All of our shaft is now in it, and presents indications of an improvement. The portion of the lode in the shaft is composed of quartz and mundic. The shaft is now 6 fms. 1 ft. 6 in. below the 60, having sunk 8 ft. during the month. The 60 east to six men the month, at 7l. per fathom; the level extended during the month 3 fms. 5 ft. I have no alteration to report in this end. In the No. 2 winze below the 50 east the contract is not completed; it is still spare for sinking. In the No. 3 winze below the 50 east, not finding it profitably productive we have suspended sinking; ground sunk 5 ft. The 50 east, to eight men and two boys, to cross-cut north 4 fms., or cut the lode at 5l. per fathom. We consider we have extended this level east of slide out of its influence, and calculate on meeting with the lode in settled ground; ground driven during the month 5 fms. 5 ft. The 40 east to six men, 3 fms. at 3l. 10s. per fathom; ground driven during the month 6 fms. 3 ft. I am not satisfied we are through the slide although we have a crossing similar to the eastern wall of slide in the 50) owing to the absence of water; the ground is getting damp. The 50 end is 2 fms. in advance of this, and the slide has an inclination west about 1 ft. in a fathom. Seeing the improved appearance of the lode in the shaft, and calculating the slide will have a beneficial effect on the lode to the east of it at the 40 and 50. I am of opinion our prospects for meeting with profitably productive ground are more cheering.

WHEAL PEEVOR (Redruth).—W. T. White, J. C. King, Oct. 23: Setting Report: The engine-shaft to sink below the 90 at 35l. per fathom. We hope in about 4 fms. sinking to reach the junction of both lodes now driving on at the 90. We consider this a most important point. The 90 to drive east, on new lode, at 5l. per fathom; worth 15l. per fathom. The 90 to drive west, on new lode, at 8l. per fathom; worth 10l. per fathom. The 90 to drive west on south lode at 9l. 9s. per fathom; lode worth 18l. per fathom. The 80 to drive east at 3l. per fathom; lode worth 8l. per fathom. The 80 to drive west at 4l. per fm.; this end is in the cross-course, which we hope to cut through in the course of a few days. The 70 to drive west at 8l. 10l. per fathom; lode worth 30l. per fm. The 70 to drive east, on Middle lode, at 6l. per fathom lode worth 12l. per fm. Winze to sink in the bottom of the 60 at 12l. per fathom; lode worth 40l. per fathom. We hope soon to communicate this with the 70. The 60 to drive west at 5l. per fathom; lode worth 35l. per fathom. Cross-cut to drive north at the 60 at 8l. per fathom. We think we are near the lode judging from the character of the ground now in the ends. Cross-cut to drive south at the 60 at 5l. per fathom; ground changing, and presenting indications of nearing the lode. The 48 to drive east of cross-cut, on the middle lode, at 5l. 15s. per fathom; worth 9l. per fathom. Cross-cut to drive south at the 36 at 7l. 7s. per fathom. The main rise in the back of the deep adit level at 9l. per fathom. We have also set eight stopes on tutwork at prices varying from 2l. 2s. to 3l. 10s. per fathom; lode worth on an average about 12l. per fathom. We have six men engaged in cleaning up the old sump shaft, and also three men driving the 48 end under so as to effect communication as early as possible. The mine we are pleased to say still looks well, and our prospects, especially in the bottom of the mine, are exceedingly good, and our returns of tin equal to any former period.

WHEAL UNY.—Henry Eddy, Matthew Rogers, Oct. 28: The 172, west of Incline shaft, is gradually improving; lode 4 ft. wide, worth 5l. per fathom. This level will be under the run of tin ground worked at the 160 within the next two months. The 160 east is worth 4l. per fathom. The stope in the back of this level is worth 7l. per fathom. The 160 west is worth 9l. per fathom. The stope in the back is worth 6l. per fathom. The new cross-cut at the 160 (12 fms. east of King's shaft) has cut into the lode 3½ ft.; it is worth for this width 6l. per fathom. We shall probably have from 8 to 9 ft. further to drive to reach the north wall. We have resumed the sinking of a former rise in the back of this level to communicate with King's shaft at the 150; when this is done we shall prove the north part of the lode from the 140 to the 160, and bring down the double skip-road to the latter level. The cross-cut north at the 170, east of Gooding's shaft, has met with some small branches, which are comparatively unproductive. The three stopes in the back of the 150, east of King's, are worth on an average 14l. per fathom. The stope in the back of the 140 is worth 14l. per fathom. The stopes ranging from the 120 to the 110 are worth 15l. per fathom, and as these are our furthest stopes east it is highly probable that large quantities of productive tin ground will be found in this direction.

MARKET ECHOES AND MINING MATTERS.

The mine of the week has been Crebor. There is now a very good demand for these shares, and yet it cannot be said that they are at all plentiful at the substantial rise which has been established. Holders are apparently waiting to see whether this movement is the forerunner of some good announcement regarding their property, for Crebor has been such a mine of surprises that a sudden advance of 1l. or so per share may mean many more later on. Last week the demand was languid—almost absent, in fact—at the quotation of 3¾ to 4; it is now 5 to 5¼. According to a very practical authority the mine has a grand future before it. It is said to bid fair to become one of our richest copper mines, and there seems to be no doubt that when the new shaft is down to the 130 the returns will be wonderfully increased. Many investors have lost sight of this new shaft, and forget what an immense difference it will make to the mine when it is completed. It is expected that the 120 will be reached by the end of the present year, and when the 130 is attained a cross-cut will be put out to the rich new lode. Then, if practical opinion goes for anything, Crebor ought to make a great stir in the mining market. It has been reported on 'Change that a silver-lead lode has been cut within the past few days.

Tin remains steady at the late advances, but tin shares are quiet. We are still of opinion that there is yet a good advance to be recorded in this metal, for statistics keep good and trade continues to improve. Copper is now also in good demand, and copper shares are hardening in price. The imports of this metal in the first eight months of the year are lower by nearly 3000 tons than they were in the same period last year, and it is said stocks are beginning to be gradually reduced. The outlook then is satisfactory.

Parys shares have suddenly advanced from 16s., 18s. to 18s., 20s. The directors' and agent's reports, just published in anticipation of the general meeting to be held on the 5th proximo, are hopeful, as of yore, but present no very special features. The pioneer level under the great open-cast has not yet discovered any large deposit of copper ore, but the shale lately met with has been, as we expected, soon passed through, and the end is now in chert, which is interspersed with copper ore, and is of such a congenial character that the directors are still expecting a good mine to be opened up by the level. The financial position of the company appears to be good. The assets exceed the liabilities by nearly 3000l., without reckoning the ochre, sulphur ore, and copper ore dressed, which are estimated to be worth about 2000l., and there are in addition to this copper precipitate and ochre in the pits at surface. Ochre just now does not, however, appear to be a very saleable commodity.

There is nothing fresh from the D'Eresby Mountain district this week, but doubtless we shall soon have some further news from the mine which gives this district its name regarding the splendid discovery on the Gorse lode at No. 6 adit.

JAMES H. CROFTS.

From Mr. JOHN B. REYNOLDS:—Whenever pointed attention is paid to British rails we may always assume that better times are near at hand. There are those who are keenly sensitive to the slightest indication of improvement in markets, and who are always found ready for advancing prices. These persons were operating last week when others were indifferent, and they are already in a position to take good profits. Since last Friday railway stocks have been extremely animated, and the Midland, together with the North Stafford, have fairly participated in the upward movement; and those persons who sent off their orders for Midland New Stock on reading my remarks last Saturday may now make a handsome profit. I regard the Midland New 10l. Stock as being amongst the very safest and most advantageous investments of the day. But there are those who really like the charm of risk. Well, surely they have a wide and attractive field for selection; and if they object to mines there is nothing so worthy of notice as Crystal Palace B Stock: 100l. worth of this security can be bought at the time I write for 9l. The Palace Company is improving faster than people perhaps imagine, and this stock will double in value again at any rate.

My reader says, "Ah! that is better than mines!" Quite true, but not better than some mines. In my last article a word of caution was given to holders of North Busys not to sell, and two days after North Busys had advanced firmly from 2l. 5s. to 2l. 12s. 6d., and the advance in these is likely to be more important than in even Crystal Palace B, whilst the advance in West Kitty shares is I think certain to be greater. As an investment, moreover, at (say) 37l., East Pool is as good as any dividend security one could select. No, no! good mines will not be put into the shade by rails or anything else, but from my very heart I wish we had none but good mines. However, there are many men who would not be happy unless they had the luxury of dealing in rubbish, and so rubbish is found for them, and anybody who sounds a word of caution is envious and interested. So there is nothing for it but to execute orders and be silent. The market is threatened with various "shooting stars" in the form of new schemes, as if we had not enough already, and even before leases are signed or business commenced people are asking for shares. Well, dealers and brokers must make up their minds to hard work during the next four months, for if indications go for anything, we shall have a lively time of it. Those will be wise, however, who only buy what they can pay for. The ready-money man buys in the cheapest market, and is always the best served.

Meetings of Public Companies.

THE SCOTTISH AUSTRALIAN MINING COMPANY.

The half-yearly meeting of shareholders was held yesterday at the Cannon-street Hotel,

Mr. A. W. YOUNG, the Chairman of the company, presiding.

The notice convening the meeting was read by the SECRETARY, and the directors' report was taken as read.

The accounts set forth the operations of the company during the six months ending June 30, and exhibit its position at that date. The balance of profit shown by the general revenue account (including 6224l. 4s. 10s. brought forward from the previous account), is 25,441l. 4s. 6d. The directors propose the payment of a dividend at the rate of 15 per cent. per annum on the paid-up capital of the company (160,000l.), free of income tax, which will require 12,000l.; to add to the reserve fund (thereby making that fund up to 20,000l.) the sum of 5000l.; and to carry forward to next account 8441l. 4s. 6d.: total, 25,441l. 4s. 6d. It is proposed to make the dividend payable on Saturday, Nov. 6 next.

The CHAIRMAN observed that the result of the half-year's working was very satisfactory. It must, however, be borne in mind that the bulk of the coal had been sold at the higher prices prevailing before the reduction alluded to at the last half-yearly meeting. It was mentioned to the shareholders at that meeting that the directors had reason to think that the arrangements which had subsisted amongst the associated collieries (to which this company did not belong) for regulating the vend of each colliery, the price of coal, and rate of miners' wages were breaking up, and that the price of coal was reduced. Very distinct information on these subjects had not then reached the board in the telegrams which they had received. They had since received full written advices, which show that a good deal of agitation and disturbance had been going on at the Newcastle Collieries during the half-year dealt with in the report now submitted. The price of coal was reduced on April 10 last from the nominal price of 14s. to 10s. When the Associated masters gave notice of a reduction in wages to their men, putting the rate lower than was stipulated under the sliding scale arrangement with them, they struck work and closed the collieries. Lambton and other non-associated collieries, however, being under no agreement with the men, took no active step in the way of reducing wages, and when the men at the Associate collieries struck the whole of the trade was thrown on to the non-associated collieries, which created a very active demand for their coal. Indeed, the demand for a short time exceeded the supplying power of the non-associated collieries. Whilst this state of things afforded an opportunity of largely increasing for a time the price of coal, Mr. Morehead saw very plainly that it must come to end very soon, and he, therefore, wisely determined to deal moderately and fairly with customers. All he did, therefore, was to resume the price of 14s. existing before the strike, and to continue to pay the men their high rate of wages. On this basis the trade was continued from the end of April to the middle of June, during which time, of course, the company did a large and profitable trade. During that interval negociations went on for reconciling the views of the associated masters and their men, and a compromise was effected by which the men accepted 3s. 9d. per ton as the hewing rate in lieu of the 3s. 6d. proposed by the masters and the 4s. held out for by the men. On June 15 all the colliers were again at work and the price reduced again to 10s. The immediate effect of these occurrences had been, as regards Lambton, to increase its sales and profits for a short time. That, however, was a mere passing advantage, and the more important point of consideration was the permanent effect which the change would be likely to have. It must, of course, be expected to reduce the profit to be made per ton of coal sold. It was not unlikely, however, that the more moderate price of 10s. would attract trade to the colony, which the high and artificially supported price of 14s. had driven away from it. Mr. Morehead anticipates that this will be the case, and the Lambton sales that have taken place since the turn of the half-year—18,972 tons for July and nearly 20,000 tons for August—were very good, considering that all the Northern collieries were at work. It was, however, yet too early to see whether the general trade is increasing under the altered state of things, and it is possible that the continued want of shipping to carry Australian coal to Eastern ports may check for a while the growth of trade which the lower price would otherwise bring about. One good effect of the reduction in wages, however, was already apparent in the greater care taken by the men in sending the coal up clean and large, a matter which, when the higher rate of wages prevailed, it was often found difficult to get done. On the whole, the change is believed by Mr. Morehead to be calculated to benefit permanently the interests of the colonial coal trade, and it remained to be seen what effect it will have upon the next profit and loss account. The shareholders would readily understand the prudence of not dividing profits too closely under the circumstances, and would see that ample provision had been made for, at all events, the next half-year's dividend, by carrying forward over 8000l. It was satisfactory to observe that a comparison of the figures of the half-year under review with those of the corresponding period of 1879 show that the sales had increased 6634 tons, and while the receipts had fallen off 8¼d. per ton owing to the reduction in price, the costs had decreased 3½d., and the net falling off in the profit was only 4¾d. per ton. As regarded the Cadia property, this continued in the occupation of Captain Holman as yearly tenant, who takes charge of it, and does a little work in the way of raising and smelting copper ores. He appeared also, from recent advices, to have devoted increasing attention to the auriferous contents of the property, and to have given encouragement to gold miners in the neighbourhood to search for gold. It has already been proved that gold exists on the property, both in the alluvial formation and in the quartz, and in previous tentative operations by tributers about six years ago 237 ozs. of gold were got out of the alluvial in a short time, they finding one nugget of as much as 39 ozs., while from one part of the reef 8 ozs. of gold were obtained from 7½ tons of stone. This yield, however, was not maintained in further operations on a somewhat larger scale which were undertaken by the company, and which did not yield gold enough to pay. Still these things prove that Cadia is auriferous, and indicate that it is not unlikely a paying reef would some day be discovered. With this view the board considered it judicious to encourage men to search the property under Captain Holman's supervision, offering them a large share of what they may obtain, as a sufficient inducement to them to persevere. So far as matters are reported to them at present, the directors were not disposed to feel very sanguine as to success, nor to run the company into expense, but they think it a very good thing that a party of practical gold miners should be encouraged to go about the property, and not unlikely that in this way some discovery may be made. As against the 25,000l. spent on Cadia, there is the reserve of 20,000l., which would cover any loss that could fairly have to be dealt with in respect of past operations. The property is an extensive one of over 3000 acres, and valuable for other than mineral purposes. He moved the adoption of the report and payment of the dividend.——Alderman Sir CHARLES WHETHAM seconded the motion.

Mr. FREWER compared in detail the results of the past half-year's work with that of the corresponding period of 1879, and stated that he was well satisfied with the comparison. He expected that the increase of trade which the reduction in price would bring on would to a considerable extent, by reducing the cost per ton, neutralise the effect of the lower price. He was glad to see that the management had always carefully given attention to keeping down costs. As regards Cadia, he thought it very likely that a paying gold reef would be discovered, and he would suggest that some qualified Victorian gold miner should be engaged to report on the property, and direct the tributers in their search. He observed that nothing was said in the report about the Newcastle land, and he assumed from that no further sales had been made. He thought the reserve fund should be invested here in some tangible security.

Mr. C. G. ROBERTS differed from the last speaker. He thought the reserve fund was very well represented by the 37,000l. of cash on deposit and at bankers, and could not be very well put into a more readily convertible security.

The CHAIRMAN, in rejoinder, observed that Capt. Holman was reputed to be

man who had had experience in gold mining, and he was in charge of the Cadia property, and directing the tributers in their operations. Still, the idea of having another capable head and pair of eyes to examine the property and advise with Capt. Holman might be worth consideration, and should be communicated to Mr. Morehead.

The motion was then put and carried unanimously, the auditors' fees were voted, and the meeting concluded with a vote of thanks to the Chairman, directors, and officers of the company. which was moved by Mr. Loveridge, seconded, and carried unanmously.

[For remainder of Meetings see this day's Supplement.]

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, OCT. 29, 1880.

	£ s. d.	£ s. d.
IRON.		
Pig, GMB, f.o.b., Clyde	2 10 10½	–2 11 0
,, Scotch, all No. 1	2 12 6	—
Bars, Welsh, f.o.b. Wales	5 0 0	—
,, ,, in London	5 10 0	—
,, Stafford., ,,	6 15 0	– 7 0 0
,, in Tyne or Tees	5 10 0	—
,, Swedish, London	9 10 0	–10 0 0
Rails, Welsh, at works	5 5 0	—
Sheets, Staff., in London	8 0 0	– 8 10 0
Plates, ship, in London	7 5 0	– 7 10 0
Hoops, Staff.,	7 0 0	– 7 10 0
Nail rods, Staff., in Lon.	6 5 0	– 6 10 0
STEEL.		
English, spring	13 0 0	–19 0 0
,, cast	30 0 0	–40 0 0
Swedish, keg	15 0 0	—
,, fag. ham.	15 10 0	—
LEAD.		
English, pig, common	15 5 0	–15 12 6
,, ,, L.B.	15 15 0	—
,, ,, W.B.	17 0 0	—
,, sheet and bar	16 0 0	—
,, pipe	16 10 0	—
,, red	17 10 0	–18 0 0
,, white	22 0 0	–24 0 0
,, patent shot	18 10 0	—
Spanish	15 0 0	—
NICKEL.		
Metal, per cwt.	15 0 0	–16 0 0
Ore, 10 per cent. per ton	20 0 0	–25 0 0
QUICKSILVER.		
Flasks, 75lbs., war. (nom)	6 17 6	—
SPELTER.		
Silesian	16 5 0	–16 15 0
English, Swansea	17 10 0	—
sheet zinc	20 5 0	–21 10 0

	£ s. d.	£ s. d.
TIN.		
English, ingot, f.o.b.	92 0 0	—
,, bars ,,	93 0 0	—
,, refined	94 0 0	—
Australian	89 0 0	—
Banca nom.	90 0 0	—
Straits	89 0 0	—
COPPER.		
Tough cake and ingot.	64 10 0	—
Best selected	66 10 0	—
Sheets and sheathing.	70 0 0	– 71 0 0
Flat Bottoms	73 0 0	—
Wallaroo	71 10 0	– 72 0 0
Burra, or P.C.O.	69 0 0	—
Other brands	66 10 0	– 67 10 0
Chili bars, g.o.b.	61 0 0	—
PHOSPHOR BRONZE.		
Alloys I., II., III., and IV.	£120 0 0	
,, VI. and VII.	135 0 0	
,, XI., Spl. bearing metal	112 0 0	
BRASS.		
Wire	6¾d.	—
Tubes	9¼	—
Sheets	8¾	–9 d.
Yel. met. sheath. & sheets	6	–6¼
TIN-PLATES.*	per box.	
Charcoal, 1st quality	1 1 0	– 1 3 0
,, 2nd quality	0 18 0	– 0 19 0
Coke, 1st quality	0 17 0	– 0 18 0
,, 2nd quality	0 16 0	– 0 16 6
Black per ton	15 10 0	—
Canada, Staff. or Gla. at Liverpool	12 0 0	—
Black Taggers, 450 of 14 × 10	30 0 0	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, andadd 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—There is not much change to be reported in the state of the metal market, the amount of business being transacted is fairly up to the average, but prices for the most part have shown a somewhat retrogressive tendency. The cheapness of money, and the probability of its so continuing, produces little or no effect upon the markets, and a general disposition appears to prevail amongst operators to take profits where practicable. There does not, however, seem to be much anxiety to realise where the return leaves a positive loss, and to prevent the markets from falling away to any material extent holders rather prefer to buy occasionally in order to give some support to the market. A feeling of uncertainty and indecision consequently exists, and both buyers and sellers narrowly watch the various movements of the chief operators, in the hope that they may thereby ascertain the probable immediate future course of prices.

With regard to legitimate business, it is plain that the season has now too far advanced to permit of any particular increase being made in the shipping trade this year, and already some of the northern ports are said to be blocked with ice. The reduced rate of the Indian Exchange this week has formed some check to the giving out of orders for that country, and as sellers for the most part appear indisposed to make concessions, or at all events reduce their prices sufficiently to enable buyers to make contracts, the amount of business done with Indian merchants has been rather limited. There does not, however, appear much cause for despondency, for while the money market continues to show symptoms of ease, it seems very unlikely that investors who have such a great interest in the maintenance, if not the advancement, of prices will allow the markets to decline much below their present comparatively low level, and as the cheapness of money enables them to secure loans upon advantageous terms, and also tends to increase regular trade in so far that fresh enterprises can be more easily and profitably entered into, the markets will doubtless maintain their present position. Although business has not revived to the extent as was expected, yet confidence has not been severely shaken, and prices will probably remain steady, excepting perhaps in such instances where speculation is now the chief characteristic feature, are where realisations will probably hereafter take place, which may cause prices to fluctuate.

COPPER.—This market keeps quiet, but quotations show scarcely any change. There is very little doing in Chili bars, speculators evidently believing that the present prices are too high to be worthy of their attention, and as the stock remains heavy, and it requires a fairly large amount of capital to invest in this metal, there does not seem much probability of speculation reviving yet awhile, nevertheless, if the statistics for this month are favourable, more animation may, perhaps, be given to the market. There, however, does not appear anything to induce buyers to effect purchases, except, perhaps, the comparatively low prices; but even this offers but little temptation when it is found that the regular demand barely warrants the maintenance of even current rates. The clearances effected in the raw material a week or two back gave tone to the market, and caused a slight advance in the price of Chili bars, but as many holders have since appeared anxious to avail themselves of the improved prices there has been less firmness exhibited in the quotations during the last day or two, and buyers being rather scarce, lower prices have to be taken in order to effect business. A moderate number of transactions only are being carried through in manufactured, and although quotations remain unaltered, yet reduced rates have to be taken so as to secure orders.

IRON.—Business in this metal continues restricted, and prices are easy, without, however, much change in quotations. The demand shows an improvement, and statistically speaking the market remains very much about the same as last week, except in the Middlesborough district, where the public stocks have considerably increased, the quantity which went into public stores last week being greatly in excess of anything known for a long time past. In compariug the state of the trade at the present time with that of the corresponding period of last year the comparison shows a very unfavourable appearance. Stocks are now much heavier than then, while shipments are not so much as half of what they were at that time. In 1879 America was purchasing from our works in heavy quantities, whereas now there is a far more limited business doing with that country, and while the colonies a year ago were buying tolerably freely they are now giving very little support to the market, and the various works throughout the country are consequently for the most part indifferently occupied. As regards the home consumption the reports compare somewhat unsatisfactorily, and the only favourable feature which the comparison appears to present is in price. Prices are now lower than what they were at the same time in 1879, nevertheless the difference does not seem sufficient to induce buyers to effect increased purchases. Last year the promising aspect of affairs improved, perhaps by the too rosy reports which were circulated of trade revival considerably encouraged speculation, of which the market is now almost entirely divested, and consequently the comparisons are made between an exceptionally animated period and a very ordinary time.

The question of making steel from Cleveland produce has again lately been renewed, and should the experiment succeed, of which there appears but little doubt, the iron trade may perhaps be injuriously affected, as the future demand will probably be more for steel than for iron. The Middlesborough market is reported flat, the demand having become less brisk, and lower prices have been accepted. Sales in No. 3 have taken place chiefly at about 39s. 6d., and in forge at 1s. per ton less, warrants being quoted at 1s. 6d. above these rates. The statistics ore very unfavourable and appear likely to cause prices to recede. On Tuesday the public stock was 107,496 tons, or an increase of 2906 tons for the week ending on that day. Shipments last week, however, were fairly good, and those coastwise, which were more than those to foreign parts, show a good increase upon the usual quantity, and compare very favourably with those for the corresponding period of 1879. The deliveries to South Wales, the Baltic, Germany, and other continental ports, were also satisfactory, and when the returns are made up for this month it is expected that that the total deliveries will be in excess of those for some months previous. Steadiness characterises the manufactured trade, and prices generally are firm. There continues to be a very fair demand for ship plates, which are procurable at from 6*l.* 12s. 6d. to 6*l.* 15s., common bars are quoted at about 5*l.* 10s., and angles at 5s. per ton more.

There is not much change to be reported as regards the state of the Glasgow warrant market; the price for warrants on Monday receded to 51s., and opened on Tuesday at 50s. 9d., but quickly advanced to 51s. 4½d., becoming weaker, however, toward the close, sellers asking only 51s. On Wednesday the market remained steady at about this figure, but yesterday it improved to 51s. 10½d., although only a small amount of business was done, and to-day the market has been steady, closing at 50s. 10½d. to 51s. Last week the foreign and coastwise shipments were but 9905 tons, against 22,945 tons for the same week last year, and the total shipments from Christmas to date this year have been 571,622 tons, against 472,038 tons for the corresponding period of 1879, and 336,365 tons in 1878. The number of furnaces in blast is 116, and the public stock on the 23rd instant had further slightly increased, being 474,891 tons, against 474,817 tons on the 16th instant. The imports of Middlesborough pig-iron into Grangemouth last week were 10,258 tons, against 3090 tons for the same week in 1879, and which makes the total decrease this year upon 1879 4077 tons. The Birmingham trade is reported quiet, and the reduced rates do not appear in any way to have stimulated the demand, and sellers in order to do business have in some instances had to accept still lower rates. However, manufacturers are said to be, on the whole, regularly occupied, and the production of both the raw material and manufactured is very much in excess of what it was a year ago. The demand for nail rods for shipment is dull, but enquiries for home consumption are more numerous, and prices have kept fairly steady.

A quiet feeling also is said to pervade the Wolverhampton market, and although new orders are rather scarce, yet prices keep tolerably firm. Hematites have found a more ready market, and 2s. 6d. rise has been secured for Tredegar qualities. There is not much doing in galvanised sheets, and although singles are quoted at 7*l.* 15s., yet there appear to be no buyers at this figure. Marked bars are firmly held at 7*l.* 10s., and 1*l.* per ton less is being asked for common bars. There is scarcely any change to be reported in the state of the trade at Sheffield. It is said that the production has largely increased this year, and that there are now 100 more furnaces in blast than was the case a year ago, and throughout the district preparations are being made to still further increase the output, and that more furnaces are being re-lighted. An improved feeling appears to prevail in the Welsh districts, and buyers appear to be more willing to enter into contracts at ruling rates, especially in manufactured. Shipments, however, have of late been rather small, and no change is made in quotations. According to a recent cable despatch from New York, a steady demand is reported for Scotch pigs, but the market, on the whole, is rather quiet. Prices are somewhat irregular, No. 1 Glengarnock and Coltness being quoted 2s. down, which makes the quotation $23; Eglington is selling at $21·50; Serap Iron remains in fair demand, but enquiries for old rails are less numerous, and the quotations for both is $25·50, or a fall of 4s. upon old rails.

TIN.—This market remains rather unsettled, and at the early part of the week prices manifested a downward tendency. The opening price on Monday for cash parcels of foreign was 87*l.* 10s. to 87*l.* 15s., receding on Tuesday to 87*l.*, and on Wednesday the official quotation was only 86*l.* 10s. to 85*l.* 17s. 6d. After 'Change, however, business was done at rather better prices, and yesterday the market having opened at 86*l.* 10s, buying became very spirited, and prices advanced to 87*l.* 15s., closing firmer at the best. To-day the market has been animated, and closes at 89*l.* to 89*l.* 5s., cash. At the moment prices appear likely to advance, and if the statistics are again favourable there will in all probability be a still further improvement, and prices may make a considerable advance, especially if the deliveries, as expected, prove satisfactory.

LEAD.—Business in this metal continues limited, nevertheless a somewhat better enquiry has sprung up this week, and prices are quoted higher. The imports have been rather heavy, while the exports show little or no improvement, and the demand from some of the Indian markets seems to have almost altogether subsided.

SPELTER.—With a decidedly slack demand, and without any prospect of any immediate improvement, prices have remained easy, but on the whole fairly steady.

STEEL.—This market remains without change, either in the demand or price, and no new feature has arisen which appears likely to influence it either one way or the other. The advices from America continue fairly satisfactory, as they show the turnover in that country to be large; nevertheless, the English manufacturers do not derive much benefit, shipments to America, as well as to other ports, being still on a limited scale.

TIN-PLATES.—Sales are few, but prices keep steady, and seem to be above what buyers can afford to pay.

QUICKSILVER is still quoted at 6*l.* 17s. 6d.

Messrs. PIXLEY and ABELL.—GOLD: The demand for gold has experienced a decided check this week, both here and in Paris, and consequently the Bank has received the bulk of the arrivals, the amount sent in being 377,000*l.*; only 20,000 sovereigns have been withdrawn for Egypt. The steamer which left Havre on the 25th inst. took 88,000*l.* to New York, and the Australia 25,000*l.* to Alexandria and the states. We have received since our last 356,135*l.* per Orient line from Melbourne; 40,000*l.* per Robilla from Bombay; 38,000*l.* per Para from West Indies; 36,460*l.* per Washington from South America; 6000*l.* per Cordillera from Pacific: total, 476,595*l.*——SILVER.—The market has shown great weakness since our Circular of last week, and though the arrivals had been but small a reduction in price had to be submitted to before the amounts to hand could be placed. We quote 51⅞d. per oz. standard as the price of the day, and at this rate the supplies by the West India and Pacific steamers have been sold. We have received during the week 22,000*l.* from Bombay; 12,000*l.* from Pacific; 17,000*l.* from the West Indies; 34,000*l.* from New York: total, 85,000*l.* The Australian has taken 52,180*l.* to India; and the Tanjore sailed from Venice on the 22nd inst. with 21,000*l.* to Calcutta.

In the MINING SHARE MARKET the dealers have been chiefly occupied in the settlement of the fortnightly account, and not much general business has been transacted. Prices show very little alteration, and are, for the most part, merely nominal. Those mostly dealt in have been Parys, Prince of Wales, Wheal Crebor, West Crebor, Pandora, Devon Consols, Wheal Peevor, and a few others.

TIN.—No change in the standards since our last, and as the metal trade is weaker, there has been less business doing in shares, and a general drop in prices. A very large speculative business has been done in tin shares in Cornwall, and dealers and speculators alike are so full of stock that much of it may have to come on the market, and this keeps it flat. Carn Breas are quoted 80 to 85; Dolcoath, 56 to 58; Tincroft, 16 to 17; Cook's Kitchen, 10½ to 11½.

West Poldice, 2 to 2½; the meeting was held on Monday, and a call of 5s. per share made. Polrose, 1½ to 2; the Margaret lode at the 90 is yielding good tin. Blue Hills, 3½ to 4; East Pool, 36 to 37; New Wheal Peevor, 2 to 2½; North Busy, 2 to 2½; Phœnix, 3 to 3½; South Condurrow, 10½ to 11; South Crofty, 10 to 11; South Frances, 12 to 13; West Basset, 16 to 17; West Frances, 10 to 11; West Kitty, 2½ to 2⅝; New Kitty, 1½ to 1¾; West Peevor, 15 to 16; West Phœnix, 2 to 2⅛. At the Killifreth meeting a call of 5s. per share was made. The accounts for five months showed, after crediting the last call of 1500*l.*, a balance against the company of 1870*l.* Wheal Agar, 5⅛ to 6; Wheal Basset, 4 to 4⅛; Wheal Grenville, 9½ to 10½; Wheal Jane, ⅞ to 1; Wheal Jewell, ⅞ to 1; Wheal Kitty (St. Agnes), 4⅛ to 4⅜; Wheal Peevor, 27⅛ to 28½; Wheal Sisters, 2 to 2⅛; Wheal Uny, 2⅛ to 2⅜; Mount Carbis, 2⅛ to 3; East Lovell, 1⅛ to 1⅜. Wheal Coates, 30s. to 35s.; the tin sold on the 27th (5 tons 13 cwts.) realised 301*l.* 4s. The 70 continues to improve.

COPPER.—Rather more business has been done in copper shares, and at firmer rates in several instances. Devon Great Consols, 11⅛ to 12. Wheal Crebors have advanced to 5, 5⅛, owing to the discovery of silver-lead in the 60 east. East Crebors are weaker, at 20s. to 25s. West Crebor, 7s. 6d. to 10s.; East Caradon, 1½ to 2; Gunnislake (Clitters), 3⅜ to 4; Carnarvon, ¾ to 1; Hingston Down, 1¼ to 1½; Mellanear, 4⅛ to 5; Marke Valley, 1⅜ to 2; Mona, 15 to 15½; North Penstrnthal, ⅞ to 1⅛. Parys Corporation have been largely dealt in, and leave off firmer, at 17s. 6d. to 22s. 6d. Morfa Du, 17s. 6d. to 22s. 6d.; Prince of Wales are weaker, at 22s. to 24s. South Caradon, 60 to 65; West Devon, 1¼ to 1⅜; West Seton, 17 to 18; West Tolgus, 50 to 55; West Caradon, 2¼ to 2½; New West Caradon, ⅜ to ⅝.

LEAD MINES are rather quiet and quotations for the most part merely nominal. Vans are 17 to 18; the 90 west has improved as well as the winze sinking below the 105. The north lode is letting out much water, but has not yet been cut through. Roman Gravels, 9¼ to 9⅜; Tankerville, 2½ to 2⅝; the sale this month is is 60 tons of No. 1 lead ore, at 10*l.* 2s. 6d. per ton, and 15 tons of No. 2 at 8*l.* 1s.; total, 728*l.* 5s. East Roman Gravels, 17s. 6d. to 20s.; the 40 tons of lead ore sold for 405*l.*, and 20 tons blende, 2*l.* 13s. 6d. per ton. South Darren, 2¼ to 2⅜; in the shaft below the 120 they have taken down the lode, which is 5 ft. wide, and worth ¾ ton of lead and 10 cwts. of copper ore per fathom. The 110 west is worth 1 ton per fathom. Pandora, 17s. 6d. to 22s. 6d.; the 45 north is worth 2 tons of lead ore per fathom, and the south end 1½ ton; there is a good course of ore now opened here, worth full 2 tons per fathom. The mine is looking well. Northern Lead, 20s. to 22s. 6d; the tribute ground in the 42 is producing 1½ ton of lead ore per fathom. The sale of ore, 30 tons of lead ore, fetched 270*l.*

D'Eresby Mountain, 40 to 50. At Pateley Bridge the 20, or No. 6 will be over 30 tons, raised and dressed by 24 men. At Gwern-y-Mynydd the works south of Deborah appear to be on the eve of entering a course of ore. Frongoch, 4½ to 4¾; the mine sells 100 tons of lead to-day Grogwinion, 3 to 3½; Red Rock, 1½ to 2; Wye Valley, ½ to ¾; New Wye Valley, 1 to 1½; Ystwith, 1 to 1½; Herodsfoot, 20s. to 25s. The accounts presented to the meeting for four months ending Sept. 18 show costs, 2357*l.* 14s. 7d.; returns of lead, 844*l.* 10s. 4d.; loss, 1513*l.* 4s. 3d.; debit balance, 1480*l.* 6s. 3d.; there is due to merchants, 1134*l.* 14s. 9d.; bills, 240*l.* 8s. 4d.; royalty, 46*l.* 7s. 3d.; bankers, 586*l.* 0s. 8d. Since the last meeting a 24-in. steam whim has been erected and paid for; and but for this and a crush in the engine-shaft, the agent states, a profit would have been made, and he hopes to pay cost during ensuing four months.

East Craven Moor, 3 to 1; East Van, 2 to 2½; Glenroy, ¾ to 1; Great Holway, 4½ to 5; Leadhills, 1¾ to 2½; North D'Eresby, 1 to 1½; Pennant, 3 to 3½; Port Nigel, 2 to 2½; West Chiverton, 1 to 1½; West Holway, 1½ to 1⅝; Pen-yr-Orsedd, 1 to 1½. Bwlch United is opening out well in the 50 and 60 going east.

FOREIGN MINES.—Brazilian Gold, 1⅛ to 1⅜; Blue Tent, 2 to 2½; Birdseye Creek, 1⅝ to 1¾; the water was turned off last week, and the final clean up is expected in about three weeks. Santa Barbara, 1¾ to 2; the advices show a profit of 258*l.* 14s. 1d. for the month of August; the gold returned was 3595 oits., valued at 1527*l.* 17s. 6d. Arendal, 3 to 4; the levels at Skytmur have improved, the 50 east being now worth 2½ tons per fathom, and the 60 3 tons of copper. Since the date of the balance-sheet in May last there have been sold 1125 tons of ore for 4565*l.*, and when the new machinery now on the way has been erected the returns will be greatly increased.

English Australian, 17s. 6d. to 22s. 6d; Kapanga, 15s. to 17s. 6d.; Placerville, 2⅛ to 2⅜; Hultafall, 2 to 2⅛; Almada, 7s. 6d. to 10s.; Cape Copper, 41 to 42; Colorado, 2⅛ to 2⅜; Copiapo, 9½ to 10½; Don Pedro, 12s. 6d. to 15s.; Flagstaff, 1⅜ to 1½; Frontino, 4 to 4½; Emma, 3⅛ to 3⅜; New Qnebrada, 5⅛ to 5½; Nouveau Monde, 15s. to 20s.; Panulcillo, 4⅜ to 5; Pitangui, 3 to 3½; Richmond, 15½ to 15¾; Ruby, 5⅜ to 6⅛; St. John del Rey, 190 to 200.

The Market for Mine Shares on the Stock Exchange has well maintained the activity noted at the close of last week, the transactions, especially in foreign mines have been much more numerous than for a long time past, and sellers have found no difficulty in obtaining quoted prices. No less than 43 transactions in mine shares were recorded in the Official List to-day alone, and similar activity has been observable throughout the week. The prospects of copper, tin, and lead are excellent, and there is a wide-spread feeling that if the monthly statistics be favourable there will in tin certainly, and in copper, lead, and blende probably, be an immediate and satisfactory advance. In the provincial markets the same satisfactory condition is observable, the reports from Cornwall, for example, showing that although during the early part of the week there was a considerable depression, owing to dealers throwing their surplus stock on the market, this has now been well cleared off, so that yesterday and to-day there has been a satisfactory revival. It is rumoured that the prospectuses of several new enterprises are just ready for issue, and it would appear to be a favourable moment for launching.

The Dieu Donné Gold Company sent out their letters of allotment on Thursday, and the directors have also made arrangements for their representative to start on Tuesday next for Paramarabo, to take over the placer and proceed to work the gold deposits.

Devala Moyar, 2½ to 2⅝; 16 samples of quartz from the company's property have been assayed by Messrs. Johnson and Matthey, and in their report they say:—"In handing to you the enclosed reports upon the various samples of quartz rock received by us on the 20th inst., we beg to state that the cases were opened in the presence of one of our firm, and that the bags under each mark in cases in which there were more than one, were assorted into separate samples by us. We retain under seal portion of each." The several assay notes show the quartz to average nearly 2 ozs. (1 oz. 18 dwts. 8 grs.) of gold to the ton all round. All contain silver in small quantities. One sample contained nearly 13 ozs. of gold to the ton, and another over 6⅜ ozs. to the ton. The highest yield of silver was under 1½ oz. to the ton.

In Indian Gold Mine share there has again been a large amount of business done, and prices are slightly higher. An article on the subject will be found in another column. The South-East Wynaad Estates and Gold Mining Company have issued Mr. Oliver Pegler's report on the gold mining operations on their various properties. The report shows that satisfactory progress has already been made in the arrangements for developing the property. As regards the estates, the manager's report on the Cinchona planting is considered to point a very large source of profit in future years:—Cinchonas: Up to date there are 70,000 permanently planted out and well established, the oldest averaging 4 ft. On Needlerock 47,000, and Richmond 23,000. Nurseries containing 315,000 seedlings for next season's extension and planting are doing well. Needlerock has 220,000 and Richmond 115,000. A profit of 2s. per tree per annum, after the fourth year, is regarded in India as a very low estimate.

The East Crowndale Mining Company, with a capital of 25,000*l.* in shares of 1*l.* each, has been formed to purchase for 5000*l.* (of which 2000*l.* will be taken in full paid shares) the well-known Anderton and Rix Hill Tin and Copper Mines at Whitchurch, near Tavistock. The two setts adjoin each other, extending about ⅝ mile on the course of the lode and ½ mile from north to south, and are considered to occupy one of the best channels of mining ground in the county. The property is in close proximity to Tavistock Town and railway station, and there is an abundance of water for dressing purposes. There are three known rich tin lodes which run nearly east and west through both setts, and the copper lodes running parallel to the former, which run through East Wheal Crebor, and are a continuation of those extensively worked in the Old Crowndale Mine, and have produced copper ore of the richest quality, for many years paying very handsome dividends. There are four distinct shafts in the Anderton and Rix Hill Mines in addition to one on the north lode, and the levels driven from them. A splendid lode, yielding good rich work for tin, has very recently been driven on, and quite recently a strong and large lode has been discovered in the northern portion of Anderton, which is entire and likely to yield profitable results. The reports, extracts from which are appended to the prospectus, appear to be of an encouraging character, and embrace those of Capts. John Goldsworthy, Unsworth, W. Metherell, Robert Jackson, Stephen Paull, and Robert Tayes. Capt. Unsworth writes that "at the time the Rix Hill Mine was suspended the tributers offered to pay all the cost of engine to be allowed to work the remainder of the time they had taken, but this was not done. The stuff they broke on this side lode or new lode was worth 12 cwt. of tin to the ton of stuff. This I know to be a positive fact. At the back of this level there are 100 tons of that will produce ¾ cwt, to the ton of stuff. In the 40 there is not much done, only a few fathoms having been driven on a lode 3 to 4 ft. wide, producing from 1 to 2 cwts. of ore to the ton of stuff." The report of Capt. R. Waters, dated Aug. 20, states that on that day at Anderton he found the 28 fm. level cleared 120 fms. east to engine-shaft. The Rix Hill adit was cleared 70 fms. to the north lode, and to the south lode N. 1. The men were engaged stoping the north lode, which was there 6 ft. 4 in. wide, and has the appearance of being worth 14*l.* to 15*l.* per fathom. There are also men stoping the south lode, 3 to 4 ft. wide. This lode also carries a very large quantity of tin. The prospectus will be found in another column.

Devon Great Consols, 11⅛ to 12⅛, and in demand; a most important feature this week is the cutting of a magnificent great course in the 137, and so far as seen 5 to 6 ft. wide. Further particulars will be known in another week. An increased monthly quantity of copper ore will be sampled this week.

Devon Great United, 2 to 2⅛, and have been in good demand all the week. Considerable progress, it is reported, is being made at the mines.

Tankerville, 2⅞ to 3⅛; good progress is being made with the formalities necessary to be completed before the registration of the New Amalgamated Company. The report from the mine is exceedingly promising, and important discoveries are almost daily expected.

Mona, 15 to 15½; no change reported, except that both ends at the 70 are improving as they are pushed forward.

St. John del Rey, 190 to 200: the telegram from the mines at Morro Velho, dated Rio de Janeiro, Oct. 23, states that the produce for the first division (11 days) of October was 7750 oits. of the value of 3003*l.*, the ley of the ore being 5·8 oits per ton. Every hand that can be employed on the work is now engaged in preparing hauling machinery. The rains have set in. A reliable correspondent, writing from the district under date Sept. 28, gives a somewhat unfavourable account of the present prospects of the enterprise. He considers that there is nothing to justify the encouragement held out at the half-yearly meetings, and that the mines are going to the bad as fast as possible. He adds, that they are working at a

large loss to-day, and that the rich ore vein is fast going out, and at a depth too which makes it almost impossible for any recovery. Their expenses, he continues, are over 7000*l* a month, and they cannot lessen them. Although this may be a slightly exaggerated view, it is well that the shareholders should know that such reports are coming from the district, especially as it is well known that at the Gongo Soco, where they have a very similar jacotinga formation, the riches were all found shallow. Near the surface the jacotinga was auriferous and yielded good profits, but when only 40 or 50 fms. depth had been reached the jacotinga assumed a lighter colour, and the gold almost entirely disappeared. It is much to be hoped, for the interest of English capitalists connected with the property, that the prosperity of past years may long continue; but shareholders must not hereafter say that they have suffered disappointment through the real prospects of the mines being unknown to them.

From St. John del Rey a further telegram dated Rio de Janeiro to-day (Oct. 29) states that the produce for the second division —nine days—of October was 7500 oits., of the value of 2906*l*., the ley of the ore being 5·0 oits. per ton. All is going on well.

Panulcillo, 4¼ to 5; the directors will recommend a dividend of 2s. 6d. per share at the meeting to be held to-morrow (Saturday).

Emma, 2⅜ to 2½; it is expected that Mr. Gager will arrive in London on Monday morning; until then, of course, no definite information can be given, but there is every reason to believe that very soon after his arrival the company and Mr. Gager will come to terms, by which the proposed settlement vesting the mine in the shareholders will take place.

Richmond, 15¼ to 15¾; the usual telegram from the mines at Eureka Nevada states that the week's run was $58,000, from 1020 tons of ore. During the week the refinery produced $50,000. The manager (Oct. 6) reports that the 900, north-west on fissure, has been advanced 14 ft.; the fissure is still regular and well defined, with broken ground on each side of it, and looks favourable for striking ore; a rise has been started near the end of this drift to explore on the fissure. No. 13 chamber is looking very well. No. 14 has very much improved; it is looking better now than it has for six months past. No. 15 is looking well, and turning out the usual quantity of ore. All other parts of the mine are without any change. The furnaces are in good working order, and smelting their usual quantity of ore. The machinery both in mine and smelting works is running smoothly.

Ruby and Dunderberg, 6 to 6½; the weekly report and cablegram are considered to be of the usual satisfactory nature. A circular has been issued to the shareholders containing a report on the company's property, by Mr. E. J. Dowlen, the engineer recently selected to superintend the smelting operations, and it is regarded as satisfactory to obtain corroborative evidence as to the efficiency of the company's works from one who has had so much experience in American mining.

In Hydraulic or Gold Washing Companies' shares there has been very little doing, but quotations remain nominally the same. Birdseye Creek, 1⅜ to 1½; the water has lasted longer this year than usual, having failed only at the end of last week. It is expected that it will take about three weeks to complete the final clean-up.

The Calistoga Soluble Gold Springs were referred to last week, and now Mark Twain writes that he considers that gold yielding water is in many respects remarkable, but not more so than the gold-bearing air of the Catgut Canyon. This air, or the wind, for it is a kind of trade wind which blows down through 600 miles of rich quartz croppings during an hour and a-quarter every day except Sunday, is heavily charged with exquisitely fine and impalpable gold. Nothing precipitates and solidifies this gold so readily as contact with human flesh when heated by passion. The time that William Abrahams was disappointed in love he used to step outdoors when that wind was blowing and come in again and begin to sigh; his brother would extract over $1¼ out of every sigh he sighed right along. When two men quarrelled about a dog they swore at each other all they knew how, but were compelled to stop every three or four minutes to make a dividend; if they didn't their jaws would clog up, so that they couldn't get the big nine syllable ones out at all, and when the wind was done blowing they cleaned up just a little over $1600 apiece. He knows these facts are absolutely true, as he got them from a man whose mother he knew personally. Several good locations along the course of the Catgut Canyon Gold-bearing Tradewind are for sale.

In Lead Mine Shares the improved feeling noticed last week has been well maintained, and although in many cases somewhat lower prices have been accepted, a large number of transactions have taken place. With regard to the future there is a general opinion among miners that higher prices for ore may be anticipated, and as many of the more prominent mines are augmenting their returns by the introduction of rock-boring machinery, and more careful and economic management, the prospects are considered excellent.

Green Hurth, 8 to 8½; in forwarding the cheques for the dividend of 4s. per share just declared, the directors take the opportunity to inform the shareholders that the special works for the development of the mine and cheaper extraction of the mineral, which have been in progress since the commencement of the year, are now about complete. Though the nature of the work is of a kind the cost of which it is customary to charge to capital account, in the present case all costs whatever have been paid out of revenue. The sum actually expended in these works during the present financial year is 1939*l*. 1s. 10d., or a sum equal to fully six shillings per share. This, together with the present dividend of four shillings, and the dividend of five shillings per share paid in March last, gives a total profit of fifteen shillings per share from the produce of the mine since Jan. 1.

Van, 17 to 18; the 90 west has improved since last report. The winze below the 105, in advance of the 120 end, is also looking well. The drivage across the north lode is being continued, and the ground is kindly. We have no change elsewhere.

Frongoch, 4¼ to 4¾; a parcel of 100 tons of lead was sold yesterday, this is the third sale of ore this month, during which period 300 tons of blende and 100 tons of lead have been sent to market. It is stated that further sales will be made forthwith. The mine is looking as well as usual. Grogwinion, 3 to 3½; the usual progress is making at all points, and prospects are excellent. New Wye Valley, 1 to 1½; a parcel of ore will be sampled in a few days.

Gwern-y-Mynydd, 3¼ to 3½; the south drivage from Deborah shaft has intersected a branch, which it is expected will lead to a discovery of ore. The ground, both north and south, continues congenial.

Pateley Bridge, ⅝ to ¾; all points are producing ore as last reported, and the last month's return of ore will be over 30 tons.

[The closing quotations being given in the Share List on the last page of the Journal it is unnecessary to repeat them here.]

INSURANCE SHARES have, according to this evening's report of Mr. W. L. WEBB, of the Stock Exchange and Finch-lane, been dealt in as follows:—Alliance, British and Foreign, 34½ to 34¾; ditto Marine, 26; County, 116½ to 117; Commercial Union, 21⅜ to 21⅝; Fire, 3⁹⁄₁₆ to 3¹¹⁄₁₆; Indemnity, 105 to 106¼; London, 64 to 64¼; London and Provincial, 4¹³⁄₁₆ to 5¹⁄₁₆; Marine, 91; Merchants' Marine, 1⅝ to 1¾; Peovident, 37¾ to 37⅞; Northern, 49⅝; Ocean, 8 to 8¹⁄₁₆; Royal Exchange, 405 to 406; Royal Insurance, 31½; Union Marine, 10⅛; Universal, 9⅝ to 9⅞. For closing prices see list on last page of Journal.

GAS SHARES.—The principal business in these shares, according to this evening's report of Mr. W. L. WEBB, of the Stock Exchange and Finch-lane, has been in Alliance and Dublin, 17⅛; British, 34½ to 35¾; Bombay, 4⅞; Continental Union, 21 to 21⅜; ditto 7 per cent., 25; European, new, 9⅜ to 9⅝; ditto new, 14½ to 14⅝; Gaslight, A, 183 to 185½; fifth issue, 17⅛ to 18; H 7 per cent., 137 to 139; C 10 per cent., 220¼ to 222; D 10 per cent., 220 to 222; Imperial Continental, 193½ to 194½; London, 183; ditto, first, 129 to 129½; Malta and Mediterranean, 2⅜; Monte Video, 16 to 16½; Para, 6¼; Rio de Janeiro, 26½ to 26⅞; Oriental, new, 5⅝ to 5¾; South Metropolitan, B, 183¾ to 185½. For closing prices see list on last page of Journal.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W. ABBOTT, of Tokenhouse-yard, are given in tabular form in the last page of the Journal.

ARENDAL.—We have pleasure in referring to the very favourable report on these mines, which will be found in another column. Capt. John Daw, well-known in connection with successful copper mining in Norway, has resumed the management, aided by his son, as resident agent, and both express themselves confident of shortly bringing the mine into a dividend paying state. Considerable delay has been caused by the erection of unsuitable machinery, which has prevented larger quantities of stuff being treated, but notwithstanding various impediments, now being removed, continued cargoes of copper ore have been shipped to this country of an average produce of about 7 per cent., fully equal to the general assay of English and foreign ores sold at Swansea. We are informed that the class of ore is much liked by the smelters, and that the 1125 tons sold since May last had realised 4565*l*., or an average of about 4*l*. 1s. 2d. per ton. These amounts are of course in addition to the sales included in the accounts to April last presented at the general meeting. About 200 tons are now ready, or in course of shipment, and a large amount of stuff which has been badly cleaned by the present defective appliances is waiting completion. Should the weather permit, a further cargo will be ready in November, but when the machinery which left England last week is erected, Capt. Daw anticipates no difficulty in dressing greatly increased quantities of ore all the ye round. With vigorous working in place of the limited underground operations hitherto carried on, and a considerable reduction in the surface expenditure, there seems every reason to expect that Arendal will prove one of the successes of 1881.

HERODSFOOT MINE.—Since the meeting on the 19th inst. the lode in the 160 fm. level north has greatly improved, worth full 2 tons of rich lead ore per fathom; this is coming under where the late company raised so much ore in the north part of the mine. The prospects have much improved during the past four months; their reserves of lead ore in sight are valued at 18,000*l*. This mine in the former working paid 80,000*l*. in dividends. In the present company there are 12,000 shares (having been subdivided at the general meeting this month), with 8s. 9d. per share only called up, and at the present time they are making profits. The future prospects are good, and a profitable paying mine is being opened up. About 8000*l*. worth of silver-lead ore has been sold in eighteen months.

THE CARADON AND PHŒNIX MINING DISTRICT.—No mine in this justly celebrated district holds out more certain prospects of becoming so great a prize as West Phœnix. This property adjoins Phœnix United Mines, which have been worked 50 years, and paid in dividends from copper alone over 150,000*l*., and nearly 50,000*l*. from tin. These mines are now very rich for tin; they are not yet one quarter worked out, although 200,000*l*. has been given in profits. They employ over 400 hands, and are well worthy a visit. West Phœnix has never been worked beyond sinking a shaft 25 years ago 30 fms. deep, where a tin lode was discovered worth 30*l*. per fathom. All the riches have yet to come. There is not a greater certainty in the district than West Phœnix. They will cut the lode in the new shaft in four weeks. The Phœnix United lodes are parallel lodes to South Caradon. The South Caradon lodes proved profitable west in West Caradon, and east in East Caradon, and the Phœnix United lodes cannot fail to prove profitable west in West Phœnix. South Caradon Mine paid in dividends 383,488*l*.; shares with 1*l*. 5s. paid up were once as high as 520*l*. each. West Caradon paid in dividends 103,475*l*.; shares with 5*l*. 2s. 6d. paid up rose to 105*l*. East Caradon Mine paid in dividends 91,853*l*.; the shares with 2*l*. 14s. 6d. paid rose to 56*l*. These three mines all embrace the same lodes. Phœnix United Mines paid in dividends 200,000*l*.; the shares rose to 430*l*. The mine has parallel lodes. Capt. John Holman, of South Caradon, is the manager of West Phœnix, and in his report states—"I congratulate you on having a very fine piece of mining ground, such as is rarely to be met with, and quite beyond any other which I know as yet unexplored." No call will be required upon these shares until July, 1881, when it will not exceed 1s. per share. Among the cheap shares in the market, and being certainly one of the greatest certainties, is the West Phœnix Copper and Tin Mines,

NEW KITTY.—This promises to rival in popularity its prosperous neighbour West Kitty. The difference in the price of shares and its immediate prospects are the alleged reasons. Without discussing the relative merits of these undertakings, it is clear that New Kitty is a capital property, and the company is perhaps one of the strongest in the list. On reflection this is not to be wondered at. It is certain that the 72 west in West Kitty is within 80 fms. of the boundary line of the two mines, and here the lode is presenting an increasingly fine appearance. This in itself is sufficient to secure New Kitty important support; but more may be stated. When last that part of the sett in which the new engine-shaft is situated was worked the late Capt. Nancarrow, of Camborne, promised the shareholders a dividend mine if only they would do what the New Kitty Company is now so succesfully accomplishing. What conclusions, then, are to be drawn? Why obviously that these shares must now be intrinsically worth 3*l*. each at least.

TREVINCE CONSOLS.—The important new lode discovered at this mine as per last week's report still continues to improve, and is now 12 ft. wide, composed of mundic, &c., interspersed throughout with copper ore; this is undoubtedly a most valuable discovery, and important results are fully anticipated.

EAST DEVON CONSOLS.—The important discovery made at this mine continues its uninterrupted course. The lode is increasing in size, with well defined walls, and is now approaching the elvan course; the water is increasing, and the grey part of the lode is greatly improving in quality, being now worth quite 30*l*. per fathom. The discovery at such a depth, being only 10 fms. from surface, has not been equalled in Devon or Cornwall during the past 15 years.

We learn that Captain JOHN WEBSTER (late manager of the Aznalcollar copper mines, Seville, Spain) has been appointed general manager of the Potosi gold mines, in Guayana, Venezuela.

Captain LEONARD TREGAY, of Redruth, has sailed in the steamship Patagonia for Chili, where he takes the management of the Panulcillo Company's mines.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains: Original Correspondence: South Staffordshire Mines Drainage Act (F. W. North); the Cause of Colliery Explosions (T. S. Horn); Colliery Explosions and their Prevention (W. T. Mulvany); on Shot-firing in Mines; Electricity in Collieries (W. H. Preece); the London and Paris Coal Supply (W. J. Thompson); Col. Shakespear on Colliery Ventilation; the West Mostyn Coal and Iron Company (J. D. Shakespear); Gold Mining in the Dutch West Indies (E. Ashmead, A. M. Chumaceiro Az); the Brazilian Gold Mines Company; Mining in Brazil; the late Descuberto Mines, now the Brazilian Gold Mines (J. Lean); Canadian Mining and Railway Notes; Mining in Queensland—New Tin Fields; Cobar Copper Mine, New South Wales (R. D. Adams); the Nouveau Monde Gold Mining Company; Russian Gold Fields—No. VII.; Gold Quartz and its Treatment; Practical Education for Miners—No. I.: Mining—Practical and Theoretical (E. Halse); Then and Now—No. III. (W. B. Cobb); the Lead Trade; Simple Problem; A Simple Problem (R. Knapp); Spurious Mining (J. Lean); Cornish Mining—its Unwrought Ground (C. Bawden); Lodeology; "Comparisons" (J. B. Reynolds); Cook's Kitchen Mine; Illogan and its Mines (C. Thomas, J. H. Dingle); East Caradon Mine; West Basset and South Frances (H. Waddington, A. T. James); the Devon Copper and Blende Company; West Chiverton Mine; Old Shepherd's Mine, Newlyn East, Cornwall (J. Phillips); the Camborne District and its Mines; the Tavistock District; Parys Copper Corporation—Foreign Mining and Metallurgy—Reports from Cornwall and North and South Staffordshire—Trade of the Tyne and Wear—Report from North Wales, Salop, and Cardigan—South Indian Gold Mining Company—Registration of New Companies—the Australian Metal Trade—Foreign Mines—Meetings of West Prussian, Herodsfoot, West Phœnix, Marke Valley, and Wheal Sisters Mining Companies—Patent Matters, &c.

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Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt; it then forms an accumulating useful work of reference.

SLATE TRADE—"R. C. P." (Totnes).—The price of slates depends so much upon strength, colour, regularity, and other properties that it would be impracticable to give a price current that would be generally useful. The best course would be to make arrangements with merchants in London and elsewhere to push the sale, having first satisfied them as to the quality.

"F. C. W." will be glad if Mr. James McNab, whose letter appeared in the Journal of Oct. 16, will send his address.—3, *Abbey-road, West Hum-lane, Stratford.*

Received,—"G. R. W." (New York)—"Constant Reader" (Utah): We shall be glad to receive the letters—"D. A. L." (Dublin) should advertise for tenders—"P.T.M."—"H. L." (Liverpool)—"E. L."—"W. G. S." (Forest Hill)—"J.M.C." (Lewisham)—"C. F. B."—"W. J. T." (Ramsgate)—"Shareholder" (Wheal Crebor)—"Plymouth" (Devon Great Consols)—"M. K."—"C.J."—"A. P. T."—"E. D."—"H. C." (Curacao)—"P. B."

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, OCTOBER 30, 1880.

THE SEAHAM COLLIERY EXPLOSION.

During the Coroner's inquiry into the cause of the explosion at the Seaham Colliery, some important information was vouchsafed by the manager, whilst applications were made on behalf of the survivors, which show the deep interest they take in the proceedings. From the evidence of the manager, it appears that blasting was carried on in the mine principally in driving through stone, and this was done when there were a large number of men employed in different parts of the colliery. At many places shots are fired when there are only the firers in the place, which renders any serious loss of life impossible, but this was not the course adopted at Seaham, for shots were fired just previous to the explosion. In his evidence, Mr. STRATTON, the manager, admitted that two shots must have been fired in the No. 3 Hutton seam some little time before the explosion took place. He further stated that within three months of the day of the explosion, inflammable gas had been found in the mine. This, the Coroner remarked, was contrary to the Mines Regulation Act of 1872, which said where gas has been found powder only shall be used, either in cases "in which the ventilation is so managed that the return air from the place where the powder is used passes into the main return air-course without passing any place in actual course of working." Mr. STRATTON stated that he did not satisfy that alternative. With regard to the other alternative in the Act, which is, "or when the persons ordinarily employed in the mine are out of the mine or out of the part of the mine where it is used." He took the view that shifters were not "persons ordinarily employed in the mine." As usual, the Act of Parliament was not carried out as it should have been, otherwise there would not have been the serious loss of life there was. The general rules of the Act are framed specially to ensure adequate ventilation and to prevent the use of gunpowder under certain circumstances, and if not carried out, explosions such as that which took place at Seaham may be expected. Mr. STRATTON also said that some since he made experiments to ascertain if there was any danger in coal dust in the absence of gas, and the result of the experiments was communicated to the Mining Institute. There was no doubt that coal dust in the case of an explosion became an active agent, but coal dust lying on the ground was no more dangerous than anything else. He could not speak of its effects if it were stirred up and a blast fired into it, but he did not think a blast would raise the dust in the part of the pit where it was fired. There was not a great deal of dust in the Seaham Colliery, and they did not gather to take it from the pit, so that it only lay mixed with other rubbish. He did not take steps to see whether the character of the dust had been altered by the explosion. With respect to dust in mines, it would appear that there is considerable divergence of opinion amongst mining engineers, and very many consider it not so harmless as Mr. STRATTON evidently does. The manager of the most fiery mine in Yorkshire, and who has had great experience in connection with explosions, states that the dust greatly impedes the ventilation in dry mines, and should be constantly watered. He had found that it lighted after a shot, and burnt the same as gunpowder. After a fall, or by the concussion caused by a shot, the finer particles of coal would surround the lamp, and ignite the same as powder. The conclusion come to by the gentleman alluded to was that it was quite probable that a lamp in a dry and dusty place could be so impregnated with dust that when an explosion by a shot, or a fall of the goaf, which always causes a concussion of the air, took place, the flame would be drawn through it and explode externally. It would thus appear that coal dust plays a more important part in connection with explosions than many colliery managers are aware of, and should, therefore, not be too lightly thought of by those in whose hands the lives of large bodies of men are placed.

At the inquest we may also say some important requests were made, the first being a communication from the Home Office enclosing an application on behalf of Mr. MACDONALD, M.P., and Mr. CRAWFORD, as representatives of the miners, to the effect that the surviving workmen were anxious that some analytical chemist should attend the enquiry. Before any reply was made to the Home Office it was agreed that the applicants should be requested to place on paper the precise points which they desired to have in evidence. We certainly cannot see what is to be obtained by chemical evidence which can only refer to the nature of gases, which are of course well known by the Government Inspectors attending the enquiry. They are well acquainted with the causes of the alteration of the air in mines, and the physical laws of the movements of gases—laws upon which are based the means put in practice to obtain the compensating current absolutely indispensable in subterranean works. The properties of fire-damp, carbolic acid, and all the gases found in mines, are well known, and their composition familiar to all mining engineers, equally as well if not better than by practical chemists. They also understand the numerous modifications which atmospheric air undergoes in subterranean excavations, and which little by little renders it unfit for the part it has to play, and sometimes causes it to explode when coming in contact with the flame of a lamp. What benefit can be derived from the appointing of a chemical analyst to attend the enquiry we are, therefore, at a loss to see. There was a great deal more force in the application made by Mr. ATHERLEY JONES, who appeared on behalf of the Miners' Association, that the Home Office should appoint some skilled or scientific witness for the purpose of analysing the coal dust or making such experiments as would tend to show whether the coal dust was in itself sufficient to produce an explosion, or if not sufficient in itself to what extent it would contribute to the further developing of a fire after an explosion had actually taken place. Mr. JONES further suggested that one or both of the Inspectors of Mines should, in company with the representative from the miners and a representative from the Marquis of LONDONDERRY, descend the mine for the purpose of ascertaining the quantity of coal dust about, and make a further report thereon for the purpose of assisting the further enquiry when the Court again esumed. Samples of the coal, he said, could be got and kept by the the miners' representatives, and also by the representative of the owner. Mr. WRIGHT placed his application on paper, and addressed a copy to the Coroner and another to Mr. WRIGHT, as representing the Home Office. The application is a most important one, and no doubt it will be readily granted. The result of such an investigation by practical and competent persons would be looked forward to with no ordinary interest by mining engineers in all parts of the kingdom, seeing that opinions are not agreed upon the subject, whilst in many districts little or no attention has been paid to it.

THE TEMPERATURE IN MINES.

As the deepest mine in the kingdom is now in course of sinking, attention is naturally directed to the temperature found at certain depths from the surface, so that a better idea can be formed as to the accuracy or otherwise of the limit put by the Coal Commissioners as to the depth at which coal seams can be worked, and which has been fixed at 4000 ft. Up to the present time the deepest mine we have is that at Rosebridge, near Wigan, and which is 815 yards deep, and with respect to which some valuable data as to temperature has been given, but at greater depths it may be expected that a considerable addition to our information on the subject will be given. So long as mining was carried on at what may be termed moderate depths the adequate dilution of explosive gases was not a very difficult matter, but comparatively simple, although not always effectual. Now, however, all is changed or changing, for the working areas were being greatly extended, and at far greater depths from the surface, so that greater difficulties have to be encountered as regards temperature and the augmented production of dangerous and explosive gases. It has been laid down by many persons as an undeniable fact that colliery disasters upon a large scale, those in particular that result from explosions of inflammable gas, can be directly traced to defective or inadequate ventilation, and are avoidable by the simple appliances of such laws of ventilation as are known and have become familiar in everyday practice. But experience has shown that as mining operations are carried on at considerable distances from the outcrops, and seams worked at greater depths below the surface, all the difficulties as regards explosive gases become intensely magnified. This is evident from the increased heat evolved as sinkings proceed in depth, but also from the pent-up gas, which makes its presence known by sudden outbursts from the floor. This confirms the opinion of many engineers that such outbursts partake of the nature of earthquakes, and that the latter occur generally from the same cause—the pressure of pent-up gases.

The immense pressure of the mineral or strata at great depths is an important item that will have to be taken into consideration. Taking a mine 400 yards in depth, with a bank face 100 yards in length, and the breadth of the coal worked at 50 yards, there would be something like 500 tons weight resting on each yard. Had the whole space fallen from a moderate height, as is usual in opening out a new district, there would be the enormous weight of 2,700,000 tons of strata entirely supported by the edges of the coal surrounding the limited goaf of little more than one acre in extent. Were 5 yards of such pressure allowed to extend on each side and end that would give something like an additional pressure of 864,000 tons resting on the surrounding coal, or 3,564,000 tons on the limited portion of coal surrounding the goaf. The great weight of the strata of the goaf often settles down on the packwalls and the coal adjoining, pressing down the floor with irresistable force, causing large quantities of gas to make its way from the point of least resistance near to the face of the coal. In some mines a space of 100 yards by 50 yards contained for every foot in thickness 45,000 cubic feet of gas. Were the space stated 45,000 cubic feet, filled with fire-damp, a sudden settling of the roof would force out into the face and upon the workmen in a few seconds 45,000 cubic feet of fire-damp; and if at the same time, from the same cause, there were a series of spaces in the floor only half the thickness containing fire-damp of six times the ordinary atmospheric density, and suddenly compressed and forced out, an additional 135,000 cubic feet of gas would be sent into the workings, sufficient to render explosive 1,800,000 cubic feet of mine space, which would render a passage of the area of 30 square feet explosive for the distance of 20,000 yards, or something like 11 miles. This is sufficient to account for the most devastating explosion ever known. If such is the result of the pressure and the gas in a mine only 400 yards in depth, one can well fancy what would be the case in one 1200 yards in depth. But the pressure is due to the weight of the strata. It is, however, believed by many that the obstacle of the pressure could be overcome, more particularly by working the mineral on the longwall principle.

Temperature, therefore, is looked upon as the main thing to be encountered, seeing that the heat of the crust of the earth increases as we descend. Singular to say, however, from experiments carried on in the mines of Cornwall by Mr. R. W. FOX, that gentleman came to the conclusion that the increase of temperature progressed in a diminishing ratio. It is difficult indeed to account for this, which would make it appear that the nearer we approached the source of heat the latter itself decreased. The theory, or hypothesis, of the increase of temperature at a diminishing ratio is not accepted by many of our scientists or mining engineers, as it cannot be reconciled with the many experiments made on the Continent as well as in the deepest mines in England. At the Dukinfield Colliery, in Cheshire, which is 686 yards deep, the temperature between 230 and 270 yards was nearly uniform at 58°, and the increase from the surface was at the rate of 1° Fahr. for 88 ft. At Rosebridge, where the shaft is 815 yards deep, the increase was only 1° for every 54·3 ft. Dukinfield far surpasses all other deep mines or wells, so far as our present records extend, in slowness of increase, the result of the peculiarity of the strata; the beds being incilned at an angle varying from 30° to 35°, rising and cropping out to the eastward, so that such highly inclined strata furnish a path by which internal heat could travel obliquely upwards and outwards, without being interrupted by breaches of continuity. At Rosebridge the strata are nearly horizontal, and the rate of increase in the temperature agrees with the average results obtained at most other places. The deduction to be drawn from the two cases noticed is that in districts where the strata are highly inclined the underground temperature will be less than in the case of those where the strata are in a position approaching the horizontal. The increase of temperature will, therefore, have to be overcome by artificial means where the depth exceeds (say) 900 or 1000 yards. On these grounds the commissioners on our coal resources came to the conclusion that at a depth of 1000 yards the temperature of the earth would amount to 98°; but under the longwall system of working a difference of about 7° appears to exist between the temperature of the air and that of the working places, and such difference representing a further depth of 420 ft., making 3420 ft., equal to the heat of the blood. It may, therefore, be fairly assumed, as it was by the commissioners, that a depth of at least 4000 ft. may ultimately be reached in the working of coal mines.

The temperature of the earth at a depth of 3000 ft. is estimated at from 97° to 98°, whilst it has been found that human labour cannot be carried on for any length of time where the temperature was above 100°, and even then the air must be dry. Dr. ANDERSON fixes the limit of temperature consistent with continuous labour, and to keep the miner in a healthy state during five hours at a time, at 90° Fahr., but even then the loss of working power he believed would be considerable. In metallic mines, no doubt, there will be some difference as compared with those in which coal is raised, seeing that in them there is not the same amount of heat evolved from the strata, in which there are some peculiarities unknown in the coal measures. Thus, at the Clifford Amalgamated Copper Mine Mr. COLLINS states that the air in the 220 fm. level in 1863 was 100° Fahr., and in July, 1864, had sunk to 83°. At another mine in Cornwall visited by Dr. SANDERSON, at the excavations in the mining galleries he found the air was heated by a hot spring to a temperature of 117°, so that the men were not able to work more than three hours out of the 24. The maximum temperature according to the average rate of 1° Fahr. for 60 ft, would give the increased temperature due to depth at 3000 ft. at 99·1° Fahr. in which men could work, whilst at 4000 ft. it would be 116·3° Fahr. But it may be fairly assumed, notwithstanding the increased density of the air at great depths that there will be such a strong current of air by means of powerful ventilators that work will be able to be carried on in mines varying in depth from 3000 ft. to 4000 ft.

It is to ventilation of a mechanical character that we must look for our deep coal seams being worked, and the longwall system of working as well, which, unlike the pillar and stall mode, does not cause the air to become heated so soon, but continues below the temperature of the coal after sweeping past the working faces. It may also be said that as sinkings become deeper, and more ventilation rendered necessary, the advantage of coal-cutting machines would be recognised, seeing that they would be worked by compressed air. The air that came from the machines was not like the ordinary air which arrived at the working faces after traversing a long line of passages through other parts of the mine; but it was brought pure and fresh from above ground, free from all contamination, and was discharged from the machine cool and grateful to the men, and at the very spot where it was most needed and most acceptable. This was a practical advantage which could not fail to prove of great value to the working of deep mines, and ensured better ventilation and a cooler atmosphere in the mine owing to the discharge of compressed air after each stroke of the tool.

EUROPEAN RAILS IN THE UNITED STATES.

A circumstance of some interest has come under our knowledge this week—that the famous KRUPP, of Essen, has secured an American order for 25,000 tons of steel rails. Not only are American railroads fain to come to Great Britain for supplies of rails, but they are even disposed to purchase rails from German firms. When it is considered that heavy—not to say crushing—import duties have to be paid upon all rails entering the United states, it is clear that the demand prevailing just now for rails across the Atlantic must be in the highest degree severe. Perhaps the natural impatience of the Americans produces, however, a demand for rails in Europe on American account. When an American railroad company undertakes the construction of a railway it is all impatience to finish it off at once; and if rails are not immediately forthcoming in Pennsylvania or New York it loses no time in importing them from Europe. The Pennsylvanian rail mills have not suffered at all from the importation of English rails, but are employed for some months to come; still, if American railroad companies would wait they would obtain Pennsylvanian rails sooner or later. But this does not suit the American book at all. The rails must be had, and must be delivered within two or three months.

In truth the rapid material progress of the great American Republic has been such as to defy all calculation and to turn the coolest heads. What with the natural excess of births over deaths, and the vast influx of immigrants, the population of the United States must be growing at the extraordinary rate of 1,000,000 per annum. A vast tide of human life is pouring westward month by month, and mere specks in the wilderness are growing into villages, while villages are expanding into towns. The influence of a railroad in connection with American colonisation is supreme and beyond anything which European minds can appreciate. Even in England a railway collects population and creates traffic. But this is doubly the case with the United States. An American railroad advancing into the West brings the whole influence of American civilisation, such as it is, to bear upon the wild country through which it passes, and the wilderness soon begins to teem with life. Take the case of the Union Pacific, the Northern Pacific, and the Chicago and North Western Railroads. These are all great Western systems—to some extent what we should call in Europe pioneer systems;—and they have created the traffic which they accommodate and brought together from all quarters the population for whom they labour. The Union Pacific plunged 15 years since into Nebraska, and created a town now acquiring a certain fame and reputation under the name of Omaha. The Northern Pacific similarly struck out westward some 300 miles further north, and called Duluth into existence. The Chicago and North Western has this year advanced into Dakota, and now we hear of a new town springing into existence in that remote quarter under the style and title of Deadwood. When we witness such almost magical results as these we can readily understand the eagerness which the Americans display to proceed rapidly with railroad construction.

FALLS OF ROOF AND SIDES IN MINES.

We are glad to find that more attention is being now paid to the fatalities arising from falls of roof and sides in mines than was formerly the case, and only quite recently Mr. ROBSON, Assistant Inspector of Mines, read a paper on the subject before the Mining Institute of Scotland, a report of which appeared in last week's Journal. It is admitted that a large proportion of the accidents from falls are the result of negligence of the workmen. Singular enough, too, whilst nearly twice as many persons were annually killed by falls as from explosions, the Legislature took little or no notice of the former. Royal Commissions have been appoined to take evidence and report as to the best means that can be adopted for the prevention of explosions, but no one ever heard of any special intervention with respect to fatalities from falls. Yet we find that in the ten years ending with 1879 no less than 4455 persons were killed from falls as compared with 2372 persons killed by explosions. Some of the accidents from "slips" cannot well be guarded against, but with respect to ordinary falls they are mostly preventable, only requiring a due regard to the proper and efficient setting of timber, a plentiful supply of the same close at hand to the working place of the miner, and as frequent an examination on the part of deputies or other officials as possible. Besides the large number of deaths from falls the number of injured from the same cause was much greater, so that men are often laid up for weeks and months owing to their own negligence. In most districts the men prop the roof of their working places and the coal, but sooner than place props at short intervals they go on working until they are buried beneath a vast weight of material. Not only should miners be compelled to support the roofs with props placed at certain distances, but they should also be instructed as to the best known methods of placing the timbers. Perhaps the best system which has yet been adopted for supporting the roof of mines behind the miners when working longwall is that of having pieces of timber cut about 2½ or 3 feet long, built across each other by twos. These should be set up in double rows at convenient distances apart, the first two pieces being placed on small coal to facilitate their removal as the face of the coal is advanced. The strength of this kind of support consists in the crushing strain being tranverse to the fibres of the wood, so that each pile has four effective props. By the use of these "chocks" considerable economy in timber is effected, and the roof far more securely supported than when single props only are used, seeing that they can be recovered after the mineral has been brought down from the goaf. This will be evident to all persons acquainted with mining, although not always adopted by workmen, who in too many instances are left to put the timber up just as they please, and which they usually do as quickly as they can. When the seam of coal or other mineral being worked is highly inclined in some cases it is found to advantage to prepare long frames of timber, which are fixed by wedging on each side of the ways, whilst in other instances cross pieces are passed over the top from one frame to the other. The usual mode of timbering in main ways was by means of props and head-pieces, or props and planks; the single head-pieces being used where it was not necessary to have planks passing from one side of the passage to the other. About the shafts and stations in coal mines in particular, or where the coves or tubs pass each other and meet, or in open places where permanent support was required, and where the men and boys frequently meet or congregate, there should be strong walling for supporting the planks or cross pieces. Cast metal pipes, with strong oak planks, have been found both effective and economical. Where props are placed in water-courses, by the side of underground passages, they are frequently found to rapidly decay, and where this is the case soles of red pine, or any wood remarkable for its durability under water, may be used with advantage. In the working places in mines the workmen should be directed to place

he timber in rows after the face, and draw the back face as it advances, and by this means there would be a saving in the waste of timber so common in many districts. For the quantity of coal raised there are less fatalities from falls of roof and sides in the North of England than in any other part of the kingdom, and this is due, to a considerable extent at least, that men are specially appointed for the setting of timber, and who being skilled in the work are able to do what is required of them most effectually, whilst at the same time there is a saving in its economical application as compared with those districts where the work is entirely done by the miners. Experience also causes the men in the North of England not only to do the work much better but in much less time than those who have had little or no experience, whilst improved methods lead to a saving on every ton of mineral raised, which at the present time is of no ordinary importance. But it should be remembered that there is no economy in a scarcity of timber, but quite the reverse, whilst it is always accompanied with considerable danger. In main ways leading to shafts, stone or brick arching will generally be found the cheapest. In conclusion, we think that accidents from falls in our mines are far more numerous than they ought to be, and that they could be greatly diminished were the underground managers to be much stricter than they are, and by means of bye-laws enforce the setting of props at certain distances. As it is, the death-rate from falls is anything but creditable to those having the control of the men working underground in our mines, and it is to be hoped that greater efforts will be made to lessen it. One of our Government Inspectors, in alluding to the subject in his last report, truly says that "falls of roof and sides are the commonest causes of accidents, and deaths from them amount to far more than those produced by explosions." These are the accidents too of which least is heard, simply because they do not, as a rule, produce more than one death at a time. They do not attract notice, therefore, but when the list comes to be made out at the end of the year it is then seen which is the most prolific source of danger in mining operations.

SULPHUR MINES IN LONDON.

"The most valuable brimstone mines in the world" are, it appears, situate in our very midst, for the London Sulphur Company (Limited), whose advertisement we print in another column, is already working a process by which they extract sulphur, almost equal in quality to refined brimstone, from that peculiar refuse of gasworks which is known as "spent oxide of iron," of which from 8000 to 10,000 tons, holding 40 or 50 per cent. of sulphur, are annually produced in the gasworks of London aloue; to say nothing of the much larger quantities similarly disposed of as a waste product at all the large provincial gasworks.

It is curious how many of the most valuable discoveries which are nowadays so frequently brought to our notice are distinguished by their great simplicity, and we have here another instance of this fact. A process very similar to that by which this wonderful result has been obtained has been in use for many years past in the large Scotch oilworks, where oil is extracted from bituminous shales by means of superheated steam; and the patent under which the London Sulphur Company is working is based on the same principle. It is well known that at a temperature very little above that of boiling water sulphur becomes a liquid almost precisely resembling oil, and it is not very surprising, therefore, that it should be possible to distil and refine it by means resembling those which are now so generally adopted in oil refineries. But as bituminous shales only contain from 10 to 12 per cent. of oil the treatment of spent oxide holding 50 per cent. of sulphur cannot fail to be far more profitable.

After the sulphur has been distilled off by the use of superheated steam, the hydrated oxide which remains as a residue can be used again and again by the gas companies in their purifiers, and fetches double the price of the "spent" oxide.

The process is so sensible and so economical that we have no doubt of its great value and are not surprised to see it stated that, after having completed a portion of their works and tested it practically on a large scale, the managing director should be able to report results which promise an annual profit on the company's shares at the rate of 28 per cent. on a capital of 20,000*l*.

THE PHOTOPHONE.

THE CONVEYANCE OF SOUND BY LIGHT AND HEAT.

A few evenings since, in connection with the Leeds Philosophical and Literary Society, Professor S. P. Thompson delivered a most interesting lecture on "Waves of Sound and the Photophone," the most recent invention of Professor Graham Bell. He said the telephone transmitted audible sounds to a distance by electrical means, but the photophone sought to accomplish the same ends by beams of light. Sound consists of invisible waves, which, passing from their source through the air, came to their ears. Waves of light travelled at a rate immensely greater than waves of sound. The pitch of a sound depended upon the frequency with which its waves arrived at their ears. They could not hear a sound unless those came at a certain rate—more than 30 or 40 waves per second, and not more than 30,000 or 40,000, showing the greater velocity of light. The Professor stated that it only took about eight minutes to travel over the distance separating us from the sun, whereas sound would take 13 years and two months to travel an equal distance. Sound became louder in proportion to the volume of the waves or vibration, and it was now even possible to drive machinery. The difference in the quality of sounds arose from varying complexity in the form of the waves, and had it not been for the knowledge acquired on these subjects there would have been no telephone or photophone. A machine could now be constructed which would itself record the vibrations, and so indicate the character of a sound, for every sound corresponded to a particular vibration of air. In war the photophone could with speed, case, and accuracy convey messages between any two stations which could at present communicate by means of heliographic signals, and there was no reason why in the future beams of light should not be used in order to enable one to speak from the top of one hill to the top of another hill. In the arts of peace also the photophone might most usefully serve to convey messages to a distance without needing the somewhat dangerous complication of telegraph and telephone wires which now stretch over their towns. Provided the weather was good beams of light could not get out of order, neither could they be cut by an enemy, as telegraph wires could. They might even imagine that vibrations of light from the sun might yet photophonically tell them something of the sounds going on in the sun or stars. In further alluding to sound, the Professor stated that Mr. Edison had invented a phonometer by which it was said we could talk through a deal board. The disc of the instrument vibrated when spoken to, and that vibration could be converted into a rotating motion, so that a little mill might be driven round by means of the sound of the voice. Such was the power of the newest invention of Professor Graham Bell. The photophone itself includes a telephone, and a beam of light, after being concentrated by a lens, falls upon a small mirror, from which it is reflected into the mouth of a large prebolic silvered reflector, into the focus of which is placed the receiver, which is composed of a number of thin discs of tin and mica placed alternately, the whole being pressed together by metal ends, with small tie-rods connecting them. The discs of mica are of less diameter than those of tin, the deficiency of diameter being made up by means of a thin layer of selenium, so that it is only through the selenium that the tin plates have any electric communication with each other. A screw at each end of the apparatus allows the selenium receiver to be placed in an electric circuit. The small mirror upon which the beam of light is, in the first instance, allowed to fall is so very thin as to be flexible, and susceptible of alteration of convexity under the influence of the vibrations caused by different sounds. The mirror consists of a very thin glass disc about 2 in. in diameter, and not more than 1-200th in. in thickness. The surface of it becoming convex and concave under the effect of the different sound vibrations, the variations act upon the rays of light reflected from its surface, and causes them to disperse or to concentrate, so that their intensity, when they fall upon the selenium receiver, is always varying. These variations respond direct to those of the sound vibrations, and are transmitted telephonically to the ordinary receivers at the other end, where the sounds are re-produced. Certain sounds, especially those containing guttrals, are heard much more distinctly than others. Into the back of the mirror case a flexible speaking tube is fixed, so that the vibrating differences make themselves felt. Such is the latest child of the genius of Professor Bell, although as yet it could not be called a perfected instrument, for its capabilities will take some time in developing; but of its value there cannot be the slightest question, and time will show the many ways in which it can be made available for scientific and other purposes.

LARGE METAL SALES IN LONDON.

The large metal sales which took place on Wednesday attracted a very numerous attendance, and many well-known extensive buyers for New York and other foreign account were present. Among others who were represented were Messrs. Winsetts, the General Northern Iron Company, Corcorran, Price and Co., Frazer, Meyers, Petry, McCulloch, Chinnerys, McFarlane, and Hammershaw. Such speculators as Louis Levy, Mortlake, Deveaux and Chartens, also Turfel Frères and Schmidt, and Reiss and Co., were conspicuous by their attention to the bids. The sale—a most important one—can hardly be said from an ironmaster's point of view to have realised anticipations. The competition amongst buyers was languid in the extreme, and this may serve as a very useful note for future operations. The majority present were evidently watching the movements of their neighbours, and did not buy to any extent. The undermentioned parcels of scrap-iron were disposed of with some rapidity. Thus:—Lot 7, 19 tons scrap-iron, fetched 3*l*. 12s. 6d.; lot 8, 12 tons, 3*l*. 12s. 6d.; lot 9, 21 tons, 3*l*. 12s. 6d.; lots 10 and 11, 43 tons (better quality), 3*l*. 15s.; lots 12 to 15 inclusive, 91 tons (middling), 3*l*. 12s. 6d.; lot 16, assorted scrap, 3*l*. 17s. 6d.; lots 17 and 18, assorted, 3*l*. 15s.; lot 19, 3*l*. 17s. 6d.; lot 20 (middling), 3*l*. 12s. 6d. Lots 21 to 32 scarcely deserve special specification, being mixed parcels of scrap, from horse shoes and steel files to common pot metal. Two small lots of old baling hoops were however included, and were eagerly bought for the Eastern markets. Prices of these 11 lots fluctuated between 3*l*. 10s. and 5*l*. 15s. (one lot of 9½ tons), and only about four lots of the scrap and second-hand stuff were retired. Old wire rope seems to be in rather brisk demand for China and Japan, where it is converted into rods for nailmaking. It is said that it only pays a shipper when there is a considerable margin between its current value and that of Staffordshire nailrods; but with a difference of, say 40s. to 45s. per ton between old wire rope and Dawes's Bromford Crown rods (the standard brand for China and Japan markets), the former will always pay the exporters, who are generally equipped with a perpetual order to buy any reasonable quantity when the discrepancy in price occurs. The buyers were very careful in their inspection of the gauges of the wire in the strands, as only Nos. 13, 14, 15, and 16 Birmingham wire gauge will repay shippers to the market in question, and the presence of more than 30 per cent. of steel wire in the parcel is considered as a detriment. Galvanised iron or steel wire rope is much more difficult of sale now-a-days than black, as the nail-makers in the East have to strip the spelter off before cutting or slitting the rods to lengths. The stripping is usually done by heat, but the appearance of the nails suffers somewhat from subjection to this operation. The following is the result of the biddings:—Lots 37 and 38, 4*l*. 10s. and 4*l*. 12s. 6d. respectively; lot 39, 4*l*. 12s. 6d.; lot 40, 4*l*. 16s.; lots 41 and 42, 4*l*. 15s.; lots 43 and 44, 4*l*. 12s. 6d.; and lot 46, 4*l*. 10s. About 115 tons must accordingly have changed hands at these slightly varying figures. A number of warrants for Scotch pigs are understood to have been disposed of by holders present, without the assistance of the hammer, at 50s. to 51s. 3d., and even 51s. 6d., and the average of such bargains may be put down at 51s. or thereabouts.

A NEW INSTRUMENT FOR SETTING OUT LINES WHEN SURVEYING UNDERGROUND.

The importance of accurate surveys of the underground workings of a mine are of themselves so evident, and the heavy expenses incurred when, owing to the inaccuracies of surveys, the boundaries of a mine have been passed through, are such that any improvement in surveying, however small, is sure of the attention of mining engineers. Hitherto the chief aim of improvements has been the perfection of instrument (dial or level), and these improvements have been in most cases brought about by the makers of the instruments. The great degree of perfection which has been obtained in the design and manufacture of dials and theodolites and levels is such that but a very small fraction of the time is now required in taking observations with the instrument to the greatest degree of accuracy compared with the total time required for making a survey. Any great improvement in surveying must, therefore, be looked for in the future, not so much in the dial or theodolite as in the preliminary arrangements for taking the observations, and it seems most likely to expect that they will be the work rather of the users than of the makers of the instruments.

There is, perhaps, no more fruitful source of loss of time when setting out lines underground than the moving of the lamp suspeuded from a string, so as to bring it exactly in the line of sight of the dial or theodolite. When accurate work is required the least motion of the hand carries the light too far, and it will be difficult when the distance is great to communicate at the instant when the light is in the proper position. Besides, when this has been done the ordinary methods of marking the point in the roof (with a piece of clay or a chalk mark) are seldom taken to ¼ in. It seems at first somewhat surprising that such rude and primitive methods as these should be used in connection with an instrument of such scientific design and precision as the present theodolite and improved dials, but the explanation is, perhaps, to be found in the fact that the above defects are not so evident to the makers as to the users of the instruments.

To remedy the above defects a very neat and ingenious arrangement has been designed by Mr. W. E. GARFORTH, the general manager of Messrs. Pope and Pearson's collieries, Normanton, and was exhibited at the last meeting of the Midland Institute of Mining Engineers, held at Leeds. The instrument consists of two distinct parts—a pencil with attachment and the plumb bob. The pencil arrangement consists of a short tube, carrying at the upper end the chalk for marking the roof; this, which may be called the pencil tube, slides over the upper end of a cylinder, which has a fine hole down the centre for the fine cord carrying the plumb bob. The cylinder is attached to the end of a short arm with a double swivel, exactly similar to the mode of suspending ships' compasses. This arrangement allows of the pencil always hanging vertically, whatever may be the position or inclination of the arm carrying it, and, therefore, is independent of the inclination of the roof. The arm carrying the pencil tube and cylinder can be moved backwards and forwards by a rack and pinion arrangement, and also in a second direction at right angles to the first motion by a second rack and pinion arrangement. Both pinions are arranged on one spindle, and are moved independently by two chamfered wheels. When the apparatus is held next to the roof, and brought approximately into the line of sight, a few turns of the chamfered wheels will bring the lamp suspended from it accurately in the line of sight. The pencil tube is then lifted and pressed against the roof, leaving a fine chalk mark exactly in the same vertical line as the suspending chord.

When it is desired to place the dial exactly beneath the point thus marked, for the purpose of taking the next observation, or setting out the next sight, the dial centre must be placed exactly uuder the pointed end of the plumb bob. As the height between the dial face and the roof is not always the same, provision must be made for lengthening or shortening the suspending cord within considerable limits. This is effected by a hollow binding screw at the upper end of the plumb bob, through which the cord passes, so that the bob can be attached with any desired length of cord. In order to bring the point of the plumb bob close against the dial face, the plumb bob has a hole drilled exactly down the centre and tapped. The binding screw by which the plumb bob is fastened to the cord is attached at the upper end of a solid screw, which screws into the hole in the centre of the plumb bob. By twisting round the plumb bob it can be moved up or down for about 1 in., and so after approximate adjustment by lengthening the chord the finer adjustment by twisting round the plumb bob can be used to bring down the point close to the dial face for the purpose of accurately centreing the dial. The apparatus is made by Mr. Davis, instrument maker, Leeds. The instrument is greatly approved of, and is used by several of the principal mining engineers in the district. The cost of it is about 2*l*. 2s.

Original Correspondence.

THE CONNOLLY MINE, AND RUBY AND DUNDERBERG.

SIR,—I am desired by one of the directors of the Connolly Mine to send you enclosed copies of two letters received by him from Mr. Prideaux, which it would be well for shareholders of the Dunderberg Company to consider after perusing Mr. Prideaux's letter in last week's Journal. Further, I am desired to forward you an extract from the Eureka Sentinel, dated the 2nd of this month, which, before commencing to set out the judgment given in favour of the Connolly Mine (Limited) makes the following remarks:—

REILLY V. HEYNEMAN—JUDGE RIVES' DECISION IN THE CASE—A PARTIAL HISTORY, &c.—In the District Court yesterday Judge Rives rendered his decision in the case of Con. Reilly *v.* H Heyneman in favour of plaintiff. The case has been hotly contested in behalf of both parties—A. M. Hillhouse and F. W. Cole appearing for plaintiff, and Thomas Wren and Baker and Wines for defendant. The case involved the title of a large quantity of very valuable mining ground, and the main question involved is one of great interest to the mining men of this coast.

And then, after setting out the judgment, concludes with these words:—

The decision of Judge Rives is based upon that of the Supreme Court of the United States in what is called the Flagstaff case.

These remarks being written upon the spot are viewed by the directors of the Connolly Mine (Limited) as refuting Mr. Bernard's statement in last week's Journal as to the piece of ground in dispute being barren waste. JOHN H. TILLY, F.C.A., Secretary.

London, Oct. 29.

Redbrook Terrace, Camborne, Cornwall, Oct. 2, 1880.

DEAR SIR,—I have this day received a cablegram from Eureka saying that judgment was given in favour of the Connolly Mine. This I suppose was the lawsuit between the Connolly and Ruby and Dunderberg. I expect this will enhance the value of your property. I will at any time give you my report of the Connolly Mine. Let me know if this lawsuit was between the Ruby and Dunderberg and the Connolly. (Signed) HENRY PRIDEAUX.

Redbrook Terrace, Camborne, Cornwall, Oct. 11, 1880.

DEAR SIR,—Yours of the 4th inst. came duly to hand. Do you want my report for publication? I shall be in London in a few days, and will let you know when I am there. Do you intend raising capital and working the Connolly, or do you intend selling it? I think it would be a good idea to form a company, and issue a number of shares for working capital, you retaining a number of shares for the value of the mine. This I think the most feasible plan. What I write you I consider strictly private, and on no account let no one in the City know that I wrote you that I had a telegram from Eureka about the lawsuit. I will help you all I can, but I must be paid for anything I do in the way of writing for publication. When I see you we can go more fully into it; in the meantime I shall be happy to hear from you. —— (Signed) HENRY PRIDEAUX.

SILVER MINING IN NEVADA.

SIR,—For the last few months there has been a growing feeling of confidence of good mining speculations, and indeed the Journal pointed out that there was a dearth of good new mining speculations. The India gold mines have been well taken up, and there are some good silver mines before the public; it will be curious to see what proof the reception of these is going to furnish of the lack of good speculations. Surely no mining property can be better recommended than some of these silver mines—the Eureka (Nevada) Silver Mines for instance. With the Eureka Consolidated and the Richmond Consolidated as grand successes, and the experience of several other successful ventures, and all within a radius that would be covered by any ordinary size concession in France or Spain, the chances are indeed brilliant, and all the more, because other capital is so small.

London, Oct. 29. OBSERVER.

[For remainder of Original Correspondence see to-day's Supplement.]

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,

MINEOWNERS, STOCK AND SHARE DEALERS, &c.

1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

Others, like our correspondent, have imagined that the ore cut in the 90 cross-cut south at Parys Corporation some months ago, and valued at 4 tons per fathom, failed, whereas it was simply left behind, and the cross-cut continued. The ventilation was so bad that only the 90 could be driven. Colonel's shaft, however, which is just inside the opencast, will be communicated to the 90 in about a fortnight. This will ventilate the level, and then the ore veins passed through in the cross-cut can be driven upon and worked.

We have no opinion of the companies about which "Consols" asks our advice.

We stated in our last that we could hardly expect the lode when cut through at No. 6, at D'Eresby Mountain, to be as good all the way as the first blast indicated, but later on we received a telegram from the mine that another hole had been blasted in 18 in. of lead ore. It will, however, take some weeks to get through the whole lode, which is over 30 ft. wide, and will, doubtless, vary in value. In No. 4 the lead was much mixed up with white spar. In the No. 5 there was less spar, and in No. 6 less still. The secretary informs us that from the sump below No. 5 he saw one stone of nearly solid lead, weighing over 5 cwts. So far everything we have written of this mine seems about to be realised, and we should be sorry now to indulge in too strong language, and form estimates of returns now which might *not* be realised. We look, however, for large returns and large profits. One great thing in favour of the company is the small cost at which the mine is now worked (much under 150*l*. a month), and the great outlay from the No. 5 level—which drains all the water to that depth down the valley—has its advantages. The cost of working most lead mines is five times, and in many instances more than ten times, that of D'Eresby Mountain, therefore the ore returned will give correspondingly larger profits. Of course, in answer to the other point of our correspondent, the price of shares may, and possibly will, vary according as buyers or sellers appear; the latter many of them tempted to realise profits. But there can be no question, we think, that those who wait longest will realise most. One shareholder who has held on patiently all through writes and asks why, if Van in 15,000 shares went to 80*l*., D'Eresby's in 1536 only should not reach 600*l*. We may probably see them at 1-6th of this, and that will well satisfy us, at least.

Good lead is coming in at No. 2 level at Aberllyn; it is already saving work, and the agent hopes to open out good tribute ground. At No. 3, about 15 fms. deeper than this, the lode is expected to be cut every day, and this is a very important point.

At Carnarvon Copper the prospects are excellent, and the 90 cross-cut must soon get under the great deposit of copper.

The Pary's Corporation Mine has just been specially inspected by Capt. Roberts, of D'Eresby Mountain, and the gentlemen for whom the inspection was made has sent us the report for our own guidance and that of our friends.

In the 90 cross-cut south, Capt. Roberts says four lodes have been intersected. The first will produce tribute ground; the second 2 tons of ore per fathom; the third good copper, and this is being driven upon to communicate with Colonel's shaft and give ventilation. There is, he says, copper in the end and copper in the shaft, and he expects a large section of ore ground will be opened here. A short distance from it 12 tons of copper were sampled from little more than the width of the end. The fourth lode has also good ore. These, as we have remarked above, and before we saw Roberts' report, can be worked when the level is communicated with Colonel's shaft.

The end of the 90 cross-cut south, Roberts says, has about 15 to 20 fms. further to get under the perpendicular of the great deposit in the 45, and from its underlie it may be reached in 5 or 6 fathoms

more driving. The stratum is the same; and, as the ground in the 90 is quite undisturbed by any influence whatever, he has no doubt when the lode is reached that it will be rich in copper. The report concludes thus—"Although the driving of the 90 cross-cut has been a long, tedious, and expensive work, yet I believe that it is the best thing that could have been done, and I am fully persuaded in my mind that the shareholders will recoup doubly the money that has been spent in the operation. The manner in which the mine is worked is very praiseworthy, and reflects great credit on the management; and although there may not be the amount of wealth remaining that has been realised in bygone years, yet there can be but little doubt that the riches yet to be obtained are equal to the most sanguine expectations."

Our own expectations, as many of our readers have frequently reminded us, have been very sanguine indeed as to the results of the 90 cross-cut, and we are glad that Capt. Roberts, on his first inspection of the mine, is able to confirm them. The great opencast to the 60 yielded five millions sterling, and it is odd if we don't get some of its riches at the 90. Many people, owing to the time it has taken, have looked upon it as a sort of myth, but they will think differently when they see shares at 3*l*. each again, and the mine in full play, and it may not be long first.

The Wheal Margaret lode at Polrose is now good "saving work" for tin—that is, paying its way in driving.

In the 60 east, at Wheal Crebor, there are fine rocks of rich silver-lead, which is quite a novelty in the mine. The south part of the lode at the 120 cross-cut, referred to last week, is 2½ ft. wide, but not yet through. It produces fine stones of copper, and has a kindly appearance.

Capt. James, it is understood, has resigned the agency of South Frances, rather than be a party to the amalgamation with West Basset, which, he says, instead of lessening the troubles of South Frances, would increase them tenfold. Capt. James also complains that the chairman at the West Basset meeting acted unfairly and unjustly towards him, in quoting only part of his remarks; those given by us from the West Briton last week.

A correspondent writes—"I went to West Crebor yesterday; the lode is producing very kindly stuff, and such as would lead anyone acquainted with the district to predict an early discovery of a bunch of ore."

The agent of Prince of Wales has, we believe, received instructions to raise the tin from the Goodluck lode, which, he says, can be worked to a good profit, and to get sales as soon as possible. We have not heard anything further from the bottom level.

The agent writes from D'Eresby Mountain, under date 28th—"We are working away at No. 5 all right, and are breaking a lot of good lead stuff. I hope and believe we shall start blasting in No. 6 to-morrow, when you shall have the result of our work."

Markets on the Stock Exchange have been fairly active during the week, with an upward tendency. English railways, with the exception of Brighton, A, are decidedly firmer; this stock continues to fluctuate widely, and has again been heavily pressed for sale. Great Northern (A), Caledonians, North-Easterns, South-Easterns, and Midlands are all considerably higher; the traffic returns of some of the lines were very satisfactory, that of the North-Eastern being 16,861*l*. Grand Trunks are a little dull just now, in spite of a very good traffic return—5046*l*. increase—and the very hopeful view of the future prosperity of the line taken by Sir Henry Tyler at the meeting of the company. Mexican Railway shares are very firm. American railways also have been in great demand, Philadelphia and Reading shares at one time showing a considerable advance. Eries are better, and we think may go higher yet. Among foreign stocks Egyptians are firm, the Unified loan touching as high as 66⅞. Turks continue to be bought on the strength of something being done before long for the benefit of the bondholders. The English Funds still keep firm, and money is as plentiful as ever.

OBTAINING AND APPLYING ELECTRICITY.

In connection with obtaining and applying electricity the name of Mr. C. Weightman Harrison has long been known, and he now proposes to employ a series of coils or helices of conducting material, and in combination therewith an interior central bar or tube or series of them, the motion of which within the helices and in the direction of their length causes electric currents within them. The motion of the interior bar or tube may be either vibratory or continuous, and when the latter it is effected by an endless chain of such bars or tubes, which in continuous motion pass successively and rapidly through a series of the coils or helices; or the coils or helices may have the motion imparted to them, and the bar or tube or series thereof remain stationary. The said interior bar or tube may be built up to form a multipolar magnetic core having a series of poles separated one from the other by a non-magnetic substance, or the magnets forming the core may be combined so as to form one magnet with a series of neutral points, for which purpose the magnets are put in contact end to end by like poles. Independent currents may be taken from each coil or from a group of any required number of them. Also coils may be placed in series side by side so as to increase the effect of the current. According to another part of his invention applicable to known and other electric machines producing alternating currents, he passes such currents through one or more coils of conducting material conveniently placed in connection with the machine, the reacting currents of which coils are made by a suitable commutator placed on the axis of the machine to act in direction with the initial current.

Another important invention connected with the same subject has been provisionally protected by Mr. James Graddon, of Forest Hill, whose object is to produce motive-power by means of electricity alone or in combination with gas, air, or other fluid employed to assist the arrangements when used for producing light or heat therefrom, or not at the time of giving motion for any other purpose, and this he proposes effecting by means of a wheel or wheels or a roller or rollers composed of magnets or magnetic producing material, and having a channel or channels cut or otherwise parallel with each other, and extending from end to end for the purpose of containing wire or other electric conductor inside a conductor or otherwise, and the roller or rollers or wheels or wheel which are to be magnets, or become so at the moment required for action, and supported in bearings, or to be otherwise fixed to revolve within, and by means of one or more pieces of metal or magnetic producing material, concaved to partly or otherwise cover the roller or rollers or wheel or wheels, and to the convexed part of the concave pieces he proposes having one or more projections, or a piece or pieces otherwise fixed at right angles thereto, for the purpose of containing wire or any other conductor of electricity to cause the concave pieces or piece to become magnetised when required, and thereby cause the wheel or wheels or roller to revolve therein through the concaved parts becoming also magnetised, or any cylinder or cylinders in which the roller or wheel is placed to revolve, simple or otherwise, and when the wire is coiled round the part or parts projecting from the concaved plate or parts, he proposes to support such wire or other material in the required position by having a piece or more in one therewith, or otherwise fixed at right angles with the projections; and on the exterior of the wire employed to conduct the electricity and to those outside plates or plate he proposes connecting a magnetised piece of metal, or pieces magnetised or to be magnetised, and in the form of a half circle, or otherwise, for the purpose of giving the concaved plates or cylinders power to cause the roller or revolving magnets to revolve by the means of the wires or wire thereof being connected with an electric battery or any contrivance employed for the purpose of creating electricity.

Mr. Graddon also proposes constructing of metal a flat piece or pieces with a part or parts thereof coiled with wire, or otherwise causing it to become magnetised and thereby giving motion to a piston or pistons, the ends of which are connected direct or otherwise with a catch caused to act on a ratchet wheel or wheels connected with a shaft, and this arrangement he also proposes fixing or placing in the form of a pillar, or otherwise worked, combined with the other arrangement herein proposed or alone, as may be required to assist in any way, and he also proposes connecting therewith a piece of metal as a magnet, or to be magnetised when required to assist in creating power, and connecting pumps with the driving shaft or shafts by means of cranks, eccentrics, or otherwise, for the purpose of compressing air, gas, or other fluid or fluids to create or assist in creating power in a cylinder or cylinders arranged to represent a pillar with a base, and he also propose arranging the magnets so as to force fluids by means of rotary motion, or otherwise, and he proposes arranging any of the cylinders or cylinder otherwise to that of a pillar.

CONSUMPTION OF FIRE-DAMP.

Although several suggestions for the destruction or consumption of fire-damp have been made at different times they have never been carried out, sometimes from their obvious impracticability, sometimes from their costliness, and sometimes from the inability of the inventor to procure the necessary support. A case of the latter class was fully noticed in the *Mining Journal* some 20 years ago, when Mr. Arthur Wall, of Birmingham, invented an arrangement of screens, which being placed so as to enclose accumulations, not only prevented its egress, but speedily absorbed and destroyed it, leaving the place perfectly free. The invention was never tried in a colliery, but in a large model exhibited in London which could be charged with the ordinary illuminating gas the success was complete—the small screens, hung as doors in the miniature representations of levels, quickly neutralised the gas passing through them, so that the supply from an ordinary burner passing in at one end of the model would not ignite, but blew out a candle at the other end. The precise nature of the composition used in the screens was kept secre for want of funds to protect it by patent, and has died with the inventor, Another and perhaps analogous process has now been invented by Mr. Guido Korner, of Freiberg, Saxony, who claims that he is able to provide practical means for the consumption of fire-damp in mines and such like places. This method of consuming fire-damp depends upon the nature of platinum and other metals of the same character—palladium, rhodium, osmium, iridium. Owing to the condensation of atmospheric oxygen on a platinised surface a process of silent combustion of the fire-damp goes on. The condensation of oxygen on platinum is increased by heating the latter, and on this account more fire-damp will be consumed when the platinum is heated. The temperature of the platinum (or palladium, rhodium, osmium, iridium) must, however, not reach a higher temperature than a cherry-red, otherwise there will be danger that the fire-damp be exploded. Any of the above mentioned metals can be equally well used as platinum. The heating of these metals can be accomplished by different methods, as for instance by means of the galvanic current. To apply this method of heating a bad conductor of heat and electricity, such as glass, will be coated with one of the above mentioned metals, and a galvanic current passed through the film of metal, the degree of heat developed being regulated by the strength of the current.

A sufficiently high constant temperature of the required character may also be produced by another method. The metals of the platinum class have the power of oxidising the vapours of hydrocarbon, such as alcohol, petroleum, ligroine, benzine, and the like by virtue of the condensed oxygen, at the same time heat being produced, but not enough to overheat the platinum. For this purpose, upon the burner of a lamp which is filled with alcohol, petroleum, ligroine, benzine, or the like, is placed a ball of glass, or better a closed cylinder of asbestos or porous carbon, which is coated with one of the platinum class of metals. The hydrocarbon vapours issuing from the oil in the lamp must pass into the cylinder, and from it into the atmosphere through the asbestos. They will be oxidised by contact with the metallic coating of the cylinder, and develope so much heat that the platinum glows cherry-red. Now, if fire-damp is present in the air it will be oxidised by contact with the heated metallic coating; but the temperature will only be slightly elevated, not so much as to cause the metal coating to be white hot, and is, therefore, not high enough to cause explosion.

If it is desired to set the apparatus in operation the porous cylinder is heated in the flame of a spirit lamp, and is then placed in a position where fire-damp is likely to occur. Also in the case of those safety-lamps in which the air is introduced above the flame this principle can be applied. For this purpose a ring of platinised, or for instance palladinised, asbestos is placed above the flame, so that the air which supplies the flame must first pass through this asbestos. The asbestos is heated by the flame, its oxidising powers being thereby intensified, the fire-damp in the air being consumed by this means, and then the purified air meets the flame. If highly explosive gases are present carbonic acid is supplied to the flame, being produced by the oxidation of the fire-damp, and the lamp is thereby quietly extinguished. The quantity of fire-damp destroyed by one lamp in this manner will be very great, and the application of this principle to this purpose is purely new and original.

METALLIC TILES FOR ROOFING.

Many propositions for using enamelled metallic plates as a substitute for slates have from time to time been made, but owing sometimes to the cost and sometimes to other objections they have never come largely into use; Mr. Leopold Gilguart, of La Buissière, Belgium, has invented a system which he believes removes all difficulty. The sheet or cast-iron tiles constituting this improved covering are enamelled on both sides, a fluting or groove being formed in the middle of their length, and their edges are bent over, the one above and the other below, in such manner that on being placed in position they exactly overlap one another. At the top is a hook of a piece with the sheet-iron plate forming the tile, which is used to fasten them (the tiles) to the laths, either enamelled iron or wood. The extremities of the iron laths or rafters are inserted into the framing or rafters of the roof, and the wooden ones are nailed. In the middle about the top of each piece is rivetted in the fluting a second hook, made of band-iron, destined to receive and to hold the upper tile. The second hook may be placed in a reverse direction at the back of the upper tile, in such a manner as to hook with the under tile. The said second hook might also be replaced by a button formed with a spike, and either with flat, square, round, or oval head, and with the spike divided as a swallow tail, which said button is fixed in the channeling below the upper tile. The button can be placed in the lower part at the back of the upper tile, then a small groove is made at the top of the under tile with which the tail of the button will engage.

The tiles can, of course, be made of various forms and sizes to suit the purpose to which they are to be applied. They may be flat; in that case a square enamelled iron or zinc hook is fixed at their top in order to hook them with the laths. In the middle part of each tile is fixed a button with a flat head, and at the under part of the said tiles is made a slot or cut in which enters the tail of the button, in such a manner that the upper tile reposes upon the head of the button of the under tile. The tiles may be flat and square, and placed upon the roof similarly to slates; they are attached to the laths by means of a zinc wire, which passes through a hole made at the upper corners of the tile, and passing around the lath; the upper tiles repose upon the under ones by means of buttons, as already explained. They may be also placed upon rafters and nailed like slates. The tiles may he placed upon the roof in a continuous line, and in this case at the break between the tiles there is placed underneath a strip of felt or a hemp band, or any other equivalent material, coated with either fat or resinous matters, in order to prevent the passage of water or snow. The tiles may be made with an indentation or pannel in their middle. The tiles may be attached by the means of zinc or galvanised wire to the laths in two different ways; the wire may at first turn round the lath and pass through the holes of the tile, and be folded in such manner that each end of the wire is folded or clinched in an opposite direction, or the wire will first pass through the hole of the tile, and then around the lath and be twisted.

Society of Engineers.—On Monday a paper will be read entitled Engineering Notes on Cyprus, by Mr. Charles J. Alford, the leading features of which are as follows:—The geology and mineralogy of the island; its natural productions; physical features, population, climate, and general character; condition of the towns and harbours; means of communication, and proposals for improving them; the water supply of the towns and for irrigation purposes, and the capabilities of the island in general, considered from an engineering point of view.

COMPRESSING AIR BY ELECTRICITY.

The object of the invention of Messrs. Poulet and Commelin, of Hautmont, France, is to obtain compressed air at a pressure of several atmospheres by means of electricity, in order to produce, with the said compressed air acting upon pistons, a motive power approximately equivalent to steam. The mechanism of the engine will be nearly the same as in ordinary engines and locomotives, the principal object of this invention being to compress the air during the work of the engine and in proportion to the quantity of air spent by the engine; this will be done by means of an electric motor which receives its electric power either from a magneto electric machine or from a battery. In short, the invention consists in an electro-motor which exhausts and compresses air into a reservoir; the compressed air afterwards acts upon the pistons of an ordinary engine.

In carrying the invention into practice there is employed an electro-magnet and an iron rod which is attracted by the magnet and serves as a piston, a lever being provided which communicates with the piston in order to increase the power. A connecting rod communicates with a fly wheel and an air pump, in connection with which is a pipe through which the air is compressed into the boiler. An inlet pipe for air is fixed upon the boiler and communicates with the side and slide rod of a secondary piston. A reservoir is employed in which air is compressed to several atmospheres, a safety valve being provided at the top and connected with a whistle, the air passing to the safety valve through a small inlet cock at the side. A driving wheel is provided at the back of the engine and is connected by a rod with the second piston.

The action is this. A Gramme machine is put in motion by means of the driving wheel and strap; the said machine is for the purpose of creating an electric current in a second Gramme machine which is used as a motive power, and by a fly-wheel and connecting rod upon the main shaft of the said machine communicates with the air pump in order to compress air into the boiler. It is to be remarked that the Gramme machine which serves as a motive power for compressing air into the boiler is at first put in motion by means of a battery. As soon as the pressure reaches 105 lbs. the communication with the battery is broken and established with the first Gramme machine, which supplies the second machine with electricity and compresses air in the engine. The air pump is provided with two main flap valves which open by the suction of the piston. Two secondary flap valves are also provided which open by the compression of air, the main valves closing at the same time.

The American Iron Trade.—Advices received on Thursday from New York state that the market for American pig-iron has experienced no important change at that centre. Some large transactions are reported to have taken place at New York in Scotch pig. Eglinton has been quoted at $21½ to $22 per ton, and Gartsherrie at $22½ to $23½ per ton. Buyers are again directing attention at New York to English steel rails, partly on account of the difficulty experienced in placing orders with American mills, and partly because for many deliveries they are cheaper. American steel rails have been quoted at New York at $60 to $65 per ton, and American iron rails at $45 to $50 per ton. The pig-iron trade has continued dull at Philadelphia, and stocks are reported to be accumulating. The market for steel rails at Philadelphia has been slightly easier. Sales of about 15,000 tons of foreign rails are stated to have been effected at Philadelphia at about $57½ per ton. American steel rails have been quoted at Philadelphia at $60 per ton. At the mills, business in American rails has continued quiet. At Philadelphia, the low price of English rails attracts buyers, especially when rails are required for southern and seaboard deliveries.

Moulds for Iron Casting.—In the construction of moulds for making metal castings such as furnace pans, jaw boxes, baths and cisterns, columns, and pipes, &c., Mr. J. Crosthwaite, of Borrowstouness, Scotland, proposes so to construct them that they may be used repeatedly, instead of it being necessary as is at present the case to make a new mould for each casting. The mould is made of gannister cement, or sand or cement, or plumbago, or such other refractory material, or mixture of such materials, as will give a smooth, compact, and coherent body for the surface of the mould. The material is confined or protected in an iron, steel, or other metal box or case, the metal extending over the face joints of the box and abutting closely against the edge of the pattern, thereby entirely dispensing with the necessity for a sand facing joint. Both the drag or under part and the top part may be formed as described, or one only (either of them) may be so formed. The core as well as the outer mould, or either the one or the other, may be found in the manner described. The gits in furnace-pan moulds or the like may be formed of ordinary moulding sand in a loose git piece passing through the mould made according to this invention.

Gold in Nova Scotia.—A valuable brick of gold, weighing 428 ozs. 5 dwts., and valued at $8570, is said to have been produced at a mine in Montague, Halifax. The brick was the product of the men's labour for less than six weeks, and the profit to the company was over $7000.

Mount Carbis.—The course of tin in the 27 fm. level has been proved by the drivage at that level, now for nearly 30 fms. in length, varying in value all along the floor of the level from 10*l*. to 50*l*. per fathom, which latter value is in the lower part of the extreme east end, and is apparently rising going towards the hill. The occasional surface floods, which have hitherto militated against the development of this very important young mine will now be taken off by the adit being brought home to drain the 27 fm. level, and the engine already purchased for the mine will provide ample power for pumping to a very considerable depth. That this mine is one of the greatest and most valuable prizes among the mines which have been started in the present year there is now not the shadow of a doubt. It is in its geological position one of the most favoured spots of a proverbially fruitful metalliferous district.

North Penstruthal is looking very promising, some good stones of tin having been broken in the shaft and 108 fm. level east. The 58, east of cross-cut is producing stones of rich grey copper ore, and in the 46 cross-cut to the 40 ft. lode the ground is getting blacker and more like capel, and may be nearing the lode.

Wheal Hony and Trelawny United Mines, in the parish of Menheniot, are about to commence active operations. A survey is advertised to be held on the mine on Saturday next, to receive tenders for building a 90-in. cylinder engine-house and other necessary appliances. Much interest is manifested here in the working of these mines, as it will give a large amount of labour to the unemployed in the district. Capt. W. Hancock, who was formerly manager of Wheal Wrey Consols and well known in the locality from his long experience in lead mines, undertakes the management.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Oct. 28	West Assheton	40	£10 1 6	Sheldon, Bush, and Co.
	Tankerville	30	10 2 6	Walker, Parker, and Co.
	ditto	30	10 2 6	Sheldon, Bush, and Co.
	ditto	15	8 1 0	Nevill, Druce, and Co.
	East Roman Gravels	20	10 2 6	Walker, Parker, and Co.
	ditto	20	10 2 6	Sheldon, Bush, and Co.
29	Northern	30	9 0 0	J. Dinning.

Frongoch will sell to-day 100 tons of lead ore.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Oct. 23	Frongoch	75	£3 2 0	Dillwyn and Co.
	ditto	75	3 2 0	Crown Zinc Company.
27	Mynydd-Gorddu*	30	4 15 10	Vivian and Son.
28	East Roman Gravels	20	2 13 6	ditto

* And have sent samples for a sale of 20 tons of Lead on 30th inst.

EW GUNPOWDER.

TO AFRICAN MERCHANTS AND DEALERS IN BLASTING POWDER.

THE ELTER-WATER GUNPOWDER COMPANY (LIMITED) hereby give notice that they have recently obtained an Injunction from the Court of Chancery of the County Palatine of Lancaster, to restrain the Ballincollig Royal Gunpowder Mills Company (Limited) from selling *(inter alia)* Gunpowder bearing the Elter-Water Gunpowder Company's Trade Mark *E W*, which was not manufactured by them. All persons purchasing Gunpowder bearing the Mark *E W*, from others than the Elter-Water Gunpowder Company, or their Agents, are requested to satisfy themselves of its genuineness.

GUNPOWDER MILLS, AMBLESIDE.

THE MINING INSTITUTE OF CORNWALL.

PRESIDENT:
JOSIAH THOMAS, Esq.
VICE-PRESIDENTS:
WILLIAM TEAGUE, Esq. | R. H. WILLIAMS, Esq.

THE NEXT EXHIBITION of MINING MACHINERY, MODELS of MACHINERY suitable for Mining Purposes, TOOLS, &c., will be held at TRURO the latter part of November, when Medals and Certificates of Merit will be awarded to successful Exhibitors.

For further particulars, apply to the Secretary,—
THOMAS B. PROVIS, Assoc Mem. Inst. C.E.
2, Chapel-street, Camborne.

COAL MINES REGULATION ACT, 1872.

EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.

DISTRICT UNDER THE CHARGE OF S. E. WALES, Esq., H.M. INSPECTOR OF MINES.

PERSONS desirous of being EXAMINED in this District for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, should at once COMMUNICATE with the Secretary to the Board of the above-mentioned District, at the following address:—C. Henry James, 8, Courtland Terrace, Merthyr Tydfil.

By order of the Board,
C. HENRY JAMES, Secretary.

N.B.—Persons who do not reside within the District are equally eligible for Examination with those who do.

THE "JAMIN" PATENT ELECTRIC LIGHT.

COMPAGNIE GENERALE D'ECLAIRAGE ELECTRIQUE.

Capital, 8,000,000 Francs.

Proprietors of the Gramme Patent Machine for Alternate Currents.

J. A. BERLY, C.E., A.S.T.E., &c.,
Engineer, and Sole Agent for Great Britain and the Colonies
16, NEW BRIDGE STREET, LONDON.

THE MYSORE GOLD MINING COMPANY (LIMITED).

Notice is hereby given, that the FIRST ORDINARY GENERAL MEETING of this company will be HELD at the Cannon-street Hotel, in the City of London, on FRIDAY, the 5th day of November, 1880, at Twelve o'clock at noon.

By order of the Board,
W. G. WILLIAMS, Secretary.

Registered Office: 6, Queen-street-place, London, E.C.,
22nd October, 1880.

THE YORKE PENINSULA MINING COMPANY (LIMITED).

Notice is hereby given, that the ANNUAL GENERAL MEETING of the Shareholders of the Yorke Peninsula Mining Company (Limited) will be HELD at the City Terminus Hotel, Cannon-street, London, on TUESDAY, the 2nd of November next, at Twelve o'clock at noon precisely, for the purpose of transacting the usual business, at which Meeting a resolution will also be submitted to the Shareholders authorising the Directors, should they deem it necessary to do so, to borrow for the purposes of the company the sum of £5000, or such other sum as may be approved of by the Meeting.

And notice is hereby further given, that on the said 2nd day of November next, and immediately after the termination of the business of the said Annual General Meeting, a SPECIAL GENERAL MEETING of the Holders of Preference Shares of the Company will be held at the same place, for the purpose of approving or of otherwise resolving as to any resolution which shall then have been passed at the said previous Annual Meeting, authorising the Directors to borrow money for the purposes of the Company.

The Share Transfer-books will be closed from the 25th instant until the 2nd proximo, both days inclusive.

By order of the Directors,
C. GRAINGER, Secretary.

50, Old Broad street, London, 23rd October, 1880.

LA PLATA MINING AND SMELTING COMPANY OF LEADVILLE, COLORADO.

FOURTEENTH CONSECUTIVE MONTHLY DIVIDEND.

The Board of Directors have DECLARED a DIVIDEND of $15,000 out of the net profits for the month of September of $15,926 40 c., being SEVEN AND A-HALF CENTS PER SHARE (par value $10) on the capital, PAYABLE on MONDAY, 1st November, leaving at credit of reserve fund $50,905 90 c.

THEODORE BERDELL, Vice-President.

21, Great Winchester-street, E.C., 22nd October, 1880.

MINE "EL CALLAO," GUAYANA, VENEZUELA.

COUPONS OF SHARES 322

Gold in bars produced in the month of August, 1880, and remitted to Messrs. Baring Brothers and Co., London, 5271·21 ozs.

DIVIDEND distributed for each coupon, $100.

(Signed) A. LICCIONI, President.
(Signed) VICTOR J. GRILLET, Treasurer.

THE LONDON SULPHUR COMPANY (LIMITED).

CAPITAL £20,000, IN 4000 SHARES OF £5 EACH.

This company has been formed for the purpose of working a process (protected by Royal Letters Patent) by which sulphur, almost equal in quality to refined brimstone, is extracted by means of superheated steam from "spent" oxide of iron and other similar materials used by the gas companies after their purifying powers have been exhausted in cleansing gas from sulphur; and the hydrated oxide is by this process at the same time renovated and recovered in the best condition for being used over again in the gas purifiers.

The London Sulphur Company has tested the process practically by the erection of nine large retorts, or steam chambers, holding at each charge rather more than 1 ton of spent oxide; and, having thus demonstrated its capability of yielding large returns, is now PREPARED TO RECEIVE APPLICATIONS FOR SHARES, with the view of extending the works by the further construction of 50 steam chambers of a capacity to make 2000 tons of sulphur per annum.

From 8000 to 10,000 tons of spent oxide, containing from 40 to 50 per cent. of free sulphur, accumulate annually in the gas-works of London alone, and are disposed of, almost as a waste product, at about £1 per ton, mainly for use in the manufacture of artificial manure; but the sulphur which is extracted by this company's process is worth from £7 to £9 per ton—and each ton of spent oxide, after extraction of the sulphur, leaves about half a ton of residue, which is hydrated oxide of iron, with all its original power as a purifier of gas restored, and worth £2 per ton.

Spent oxide of iron contains double the percentage of free sulphur which is contained in the richest and four times as much as in ordinary Silician brimstone ores, while the residual oxide almost repays the first cost of the raw material; so that the gas-works of London may be regarded as the most valuable brimstone mines in the world—and it is no small advantage that they are close at hand, instead of in a foreign country a thousand miles away.

Full prospectus, with the last Report of the Managing Director of the company, who estimates the profits at 28 per cent. per annum, and other particulars, may be had by intending shareholders, on application to the Secretary, P. H. PETERS, Esq., 4, Victoria-street, Westminster, S.W.

TUESDAY NEXT.

BY ORDER OF THE MORTGAGEE.—WITH POSSESSION.

DEVON, about four miles from TAVISTOCK, and two from Lidford Stations, on the Plymouth and Launceston Railway.

VALUABLE MANGANESE MINE, as a going concern and in full working order.

MESSRS. MARSH, MILNER, AND CO. WILL SELL, BY AUCTION, at the Bedford Hotel, Tavistock, on Tuesday next, the 2nd day of November, at Five for Six o'clock precisely, the VALUABLE LEASE of the well-known

MONKSTON MANGANESE MINE,

Situate in the parish of Brentor, in the county of Devon, comprising a sett of over forty-five acres, with engine-house, sheds, and other necessary offices and out-buildings, together with all PLANT, MINERALS, and STORES.

There are good road approaches and railway accommodation near. Held from the freeholder for a term of 21 years from the 26th March, 1877.

Particulars of Messrs. MASON and EDWARDS, Solicitors, 63, Lincoln's Inn Fields, W.C.; at the Bedford Hotel, Tavistock; and of the Auctioneers, 54, Cannon-street, London.

THURSDAY NEXT.

BY ORDER OF THE MORTGAGEES.

PERIODICAL SALE FOR NOVEMBER 4TH,
IN LIQUIDATION.

SERVIA.—SERVIAN COPPER AND IRON COMPANY (LIMITED).

MESSRS. MARSH, MILNER, AND CO. WILL SELL, BY AUCTION, at the Guildhall Coffee House, on Thursday next, November 4th, at One o'clock precisely,

THE MINES AND SMELTING WORKS

Situate in the Domain of Maidenpek and Rudna Glava, in Servia, belonging to the Servian Copper and Iron Company (Limited), now in liquidation.

The Mines are held under a concession by Servian Government to Servian Copper and Iron Company (Limited), for a term of 50 years from the 1st November, 1868.

Particulars of EDWIN ANDREW, Solicitor, 27, Clement's-lane, E.C.; and at 54, Cannon-street.

NEWENT COAL AND IRON COMPANY (LIMITED).

Within one mile and a half of Newent, and ten of Gloucester.

MESSRS. BRUTON, KNOWLES, AND CO. WILL SELL, BY AUCTION (under a distress for rent), at the Works, on Thursday, the 4th November, 1880, at Twelve o'clock punctually, the

VALUABLE MACHINERY, PLANT, TOOLS, &c.,

Including a pair of HIGH-PRESSURE HORIZONTAL EXPANSIVE PUMPING ENGINES, cylinders 20 in. diameter, 5 ft. stroke, by B. Barker and Co.; pair TANGYE'S PATENT WINDING ENGINES, cylinders 10 in. diameter, 20 in. stroke; HORIZONTAL ENGINE for working pump, with plummer blocks, &c.; Savory's improved TRACTION and WINDING ENGINE, Cornish boiler, 7 ft. diameter, 30 ft. 6 in. long, with two flues 2 ft. 6 in. diameter, fitted with Galloway's patent tubes: THREE HEMISPHERICAL BOILERS, respectively 26 ft., 27 ft., and 35 ft. in length and 5 ft. diameter; boiler fittings; complete Cameron's PATENT PUMP; Giffard's PATENT INJECTOR; massive cast-iron bell cranks, pumping spears, Shilton's weighing machine, plummer blocks, new steel wire ropes, pit gins by Bryan Johnson, large quantity of flange rails and piping, wrought and cast-iron plates, iron buckets, pitch pine timber, &c,

The Engines and Machinery are in first-class working order.

N.B.—The temporary injunction under which the Sale of this Plant (previously advertised for the 7th October) was restrained, being now discharged by order of Mr. Justice Field, the above sale will positively take place.

Catalogues may be had of the Auctioneers, Gloucester.

WHEAL JANE.

MR. W. T. DAVEY has received instructions TO SELL, BY PUBLIC AUCTION, at Tabb's Hotel, Redruth, on Friday, 5th November, at 7·30 P.M., THIRTY-ONE (2048) FORFEITED and RELINQUISHED SHARES in this Mine, pursuant to a Resolution passed at the Meeting of the Shareholders on the 20th instant.

EAST LOTHIAN.

PRESTONGRANGE COAL, FIRE-CLAY, AND BRICK-WORKS FOR SALE.

TO BE EXPOSED FOR SALE, BY PUBLIC ROUP, within Dowell's Rooms, No. 18, George-street, Edinburgh, on Wednesday, the 10th November, 1880, at Two o'clock afternoon, at the reduced upset price of £40,000,

The EXTENSIVE and WELL-KNOWN COLLIERY of PRESTONGRANGE, with FIRE-CLAY and COMMON BRICK-WORK attached, situated in the parishes of Prestonpans and Tranent, in the county of Haddington, with the Pits at MORRISON'S HAVEN, BIRSLIE, and DOLPHINGSTON, BRICK-WORKS, HOUSES, MACHINERY, PLANT, STOCK OF COAL and FIRE-CLAY GOODS, &c. and relative leases, all as fully described in recent Advertisements.

Inventories of Plant, Machinery, Works, &c., can be seen in the hands of Mr. FREDERICK W. CARTER, C.A., the Liquidator, 5, St. Andrew-square, Edinburgh: or Mr. G. B. LUKE, the General Manager, at Morrison's Haven, Prestonpans.

The Leases and Articles of Roup will be seen at Messrs. WADDELL and M'INTOSH, W.S., 87, George-street, Edinburgh; and any of the parties will afford further particulars.—October, 1880.

UNION SLATE AND SLAB COMPANY (LIMITED). *IN LIQUIDATION.*

TO BE SOLD, THE MOELWYN SLATE QUARRY, situate in the parish of Festiniog, near the Tan-y-Grisiau Station on the Festiniog Railway.

The quarry has been opened to a considerable extent, and a large amount of money has been expended in developing the property, and in making inclines to connect it with the Festiniog Railway. There is a powerful water-wheel, saw and planing tables, drum houses, wagons, and every requisite for effective working. The property consists of 356 acres, together with the necessary sheds, barracks, &c.

Further particulars may be had on application to the Liquidators of the said company, at 9, Victoria Chambers, Westminster.

LLANIDLOES, MONTGOMERYSHIRE. *IN LIQUIDATION.*

TO BE SOLD, BY PRIVATE TREATY, the WHOLE of the PROPERTY known as the

CWM RICKET AND MAESNANT LEAD MINE.

Which is situate in the parish of LLANGURIG, and is about seven miles west of LLANIDLOES. The sett is very extensive and the strata highly mineralised, and contains 17 lodes, including the well-known Van Lode. Two shafts have been sunk and levels driven on these lodes, out of which some tons of rich lead ore have been obtained.

The Plant consists of WATER-WHEELS, DRAWING MACHINE, CRUSHER, PUMPS, and ORE DRESSING TOOLS, all of whtch are in good working condition. There are also smithy, offices, dwelling houses, dressing floors, &c.

To view, apply to Capt. GRENFELL, on the Mine; and to treat, apply to Mr. R. B. STOCKWELL, Liquidator, 15, Dickinson-street, Manchester.

TO BE SOLD, BY PRIVATE CONTRACT, A VALUABLE FREEHOLD RESIDENTIAL and MINING PROPERTY, being a portion of

THE RUMLEIGH ESTATE,

Containing about 162 acres, in the parish of Bere Ferris, near Tavistock, Devon. The mansion commands beautiful and extended views of the River Tamar and surrounding country. The well-known character of the ground and the immediate vicinity of large and important lodes afford substantial evidence that large deposits of minerals underlie the property.

The estate possesses wharfage to the river, and large brick and tile works.

For further particulars, apply to Messrs. RAWLENCE AND SQUAREY, Salisbury, and 22, Great George-street, Westminster; and Messrs. CARLYON AND SON, Truro

MINING MACHINERY AND MATERIALS FOR SALE, AT ST. IVES CONSOLS MINE.

ONE 20-inch DOUBLE-ACTING WINDING ENGINE and 10 tons BOILER.
ONE 11 tons BOILER and FITTINGS.
ONE 9 tons ditto ditto
ONE 8 tons ditto ditto
ONE 5 tons ditto, without fittings.
ONE 18 inch POLE, POLE CASE, STUFFING BOX and GLAND.
FOUR 18 inch 9 feet PUMPS.
THIRTEEN 12 inch 9 feet PUMPS.
About 60 fathoms of 9 inch and 8 inch PUMPS.
Several sets of STRAPPING PLATES, various sizes.
400 fathoms of 9-16 inch CHAIN, and a large quantity of USEFUL MINING MATERIALS.

For price and particulars, apply to—
Mr. GEORGE TREWEEKE, St. Ives, Cornwall;
Or to Capt. MICHELL, at the Account-house.
27th October, 1880.

TO BE SOLD, BY PRIVATE TREATY, THREE HUNDRED VERY SUPERIOR 8-ton COAL WAGONS, built in the years 1873 and 1874 by OLIVER, of Wigan, and the Midland Wagon Company.

The whole have been very little used, and are nearly as good as new.

For further particulars, apply in writing to "Box 209," MINING JOURNAL Office, 26, Fleet-street, E.C.

FOR SALE, a SEMI-PORTABLE PIT SINKING, COAL WINDING, and PUMPING ENGINE, double 9½ in. cylinder, fitted with link-motion reversing gear, mounted on a multitubular boiler, with Bowling iron fire-box;

Also WINDING GEAR, drum 5 ft. diameter, brake, and PUMPING GEAR complete, ready for immediate delivery.

To be seen at—
BARROWS AND STEWART'S WORKS, BANBURY, OXON.

VALUABLE FREEHOLD ESTATE AND LEAD MINES, IN THE COUNTY OF YORK.

FOR SALE, BY TENDER, a FREEHOLD ESTATE, called GARFORTH LAITHE FARM, situate in the Township of GLUSBURN, in the parish of Kildwick, in the County of York, containing 90 A. 1 R. 26 P., or thereabouts, of Meadow, Pasture, and Moorland, and now in the occupation of Mr. John Overend; and also the MANOR OF GLUSBURN, with the right to work the MINES OF LEAD, AND ALL OTHER MINES, MINERALS, AND ORES under the land formerly GLUSBURN MOOR, containing about SEVEN HUNDRED ACRES.

The property is within two miles of the Kildwick and Cononley Station on the Midland Railway.

The Mines, which adjoin those of His Grace the Duke of Devonshire, have been partially worked, the levels and shafts are in fair order, and, with a very moderate outlay in extension of the workings, they will undoubtedly prove a profitable investment.

Tenders for purchase of the Estate, Manor, and Minerals (in a gross sum), to be sent to Messrs. Taylor, Jeffery, and Little, on or before the 10th day of November next.

The highest or any tender will not necessarily be accepted.

Further particulars may be obtained on application to Messrs. SMITH, GOTTHARDT, and Co., Land Agents, Bradford; or to
TAYLOR, JEFFERY, AND LITTLE, Solicitors, Bradford.

Bradford, 8th October, 1880.

COLLIERY FOR SALE, been working three years, getting a FIRST-CLASS HOUSE and GAS COAL,

For price and further particulars, apply to Mr. FRANK CLEGG, Secretary, Ossett Flockton Coal Company, Ossett, near Wakefield.

ROCK DRILLING AND AIR COMPRESSING MACHINERY.

WARSOP AND HILL, ENGINEERS, NOTTINGHAM, ARE PREPARED TO CONTRACT FOR

DRIVING LEVELS or SINKING SHAFTS, &c., by machinery with all the recent improvements to ensure rapid advance; or to SUPPLY and FIX PLANTS, complete.

UNDERGROUND HAULAGE A SPECIALITY.

AIR-COMPRESSOR FOR SALE.—Vertical Direct-Acting, combined with Steam Engine. Jacketted Air Cylinder, 10¼ in. diameter: steam cylinder, 11 in. diameter, 18 in. stroke. Other sizes in progress.

ALEX. WILSON AND CO.,
ENGINEERS,
VAUXHALL IRONWORKS, WANDSWORTH ROAD.

ALEXANDER SMITH, M.Inst.C.E., CONSULTING ENGINEER and VALUER of IRONWORKS, MINING, RAILWAY, ENGINEERING, and other PROPERTY, PLANT, and MACHINERY,
1, PRIORY STREET, DUDLEY.

Mr. SMITH has been retained for nearly 20 years by some of the most prominent firms, and has conducted many of the largest valuations that have taken place in the kingdom.

Valuations for Stock Taking or any other purposes upon very reasonable terms.

ENGINES, BOILERS, &c., FOR SALE:—
FIRST-CLASS 50-inch cylinder PUMPING ENGINE.
ditto 24-inch „ ROTARY ENGINE
48-Head STAMPS, CALCINER, &c.
Apply to Capt. NICHOLLS, Camborne.

PATENT TRUCK WINCHES, HAULING ENGINES, &c., for over and underground purposes. Worked with air or steam Strong, simple, and effective.

A. HIGGINSON AND CO.,
56, TOWER BUILDINGS, E., LIVERPOOL, W.

MESSRS. W. NANCE AND CO.,
MINING ENGINEERS AND INSPECTORS,
22, STANLEY STREET WEST, NORTH SHIELDS,

Having Inspected and Managed a large number of Mines at Home and Abroad, are PREPARED TO FURNISH VALUABLE INFORMATION on reasonable terms. French and German spoken.

ALL KINDS OF MACHINERY SUPPLIED—DRESSING A SPECIALITY.

THE ONLY COMPLETE AUTOMATIC DRESSING FLOORS EXTANT.

THE SANDYCROFT FOUNDRY AND ENGINE WORKS COMPANY (LIMITED).

NEAR CHESTER
Late the MOLD FOUNDRY COMPANY. Established 1838.)
MAKERS OF
MINING MACHINERY,
CORNISH PUMPING, WINDING, AND EVERY OTHER DESCRIPTI OF ENGINE,
PITWORK, BOILERS, FORGINGS,
WATER-WHEELS, ORE CRUSHING, STAMPING, AND DRESS MACHINERY,
GOLD AND SILVER AMALGAMATING MACHINERY,
MINING TOOLS,
ROCK DRILLS, AIR COMPRESSING ENGINES, and all the necessary accessories for MACHINE BORING.
SPECIAL ATTENTION given to MACHINERY FOREIGN MINES.
SECOND-HAND MINING MACHINERY FOR SALE.
LONDON AGENT:—MR. JOHN F. PEARSE,
6, QUEEN STREET PLACE, SOUTHWARK BRIDGE, E.C.

ALEX. CHAPLIN AND CO.,

CRANSTONHILL ENGINE WORKS, GLASGOW,
PATENTEES AND SOLE MANUFACTURERS OF
CHAPLINS' PATENT STEAM CRANES, HOISTS,
LOCOMOTIVES, AND OTHER ENGINES AND BOILERS
LONDON HOUSE:—
No. 63, QUEEN VICTORIA STREET, LONDON.

W. TREGAY, Mining Engineer, REDRUTH,

Having had many years' practical experience in Metallic Mines, is prepared to INSPECT, REPORT, and ADVISE on every description of MINERAL PROPERTY

J. S. MERRY,
ASSAYER AND ANALYTICAL CHEMIST
SWANSEA
SUPPLIES ASSAY OFFICE REQUIREMENTS AND RE-AGENTS.

"THE MINING ENGINEER," a Guide to Investors, exhibiting an outline of general facts relating to mines and mining. Two Shillings and Sixpence per annum, single copies 2½d., post free. Published monthly by Messrs. JAMES and Co., Western Mining Offices, Grampound Road, Cornwall.

THE NEWCASTLE DAILY CHRONICLE (ESTABLISHED 1764).
CHRONICLE AND NORTHERN COUNTIES ADVERTISER,
Offices, Westgate-road, Newcastle-upon-Tyne; 50, Howard-street, North Shields, 195, High-street, Sunderland.

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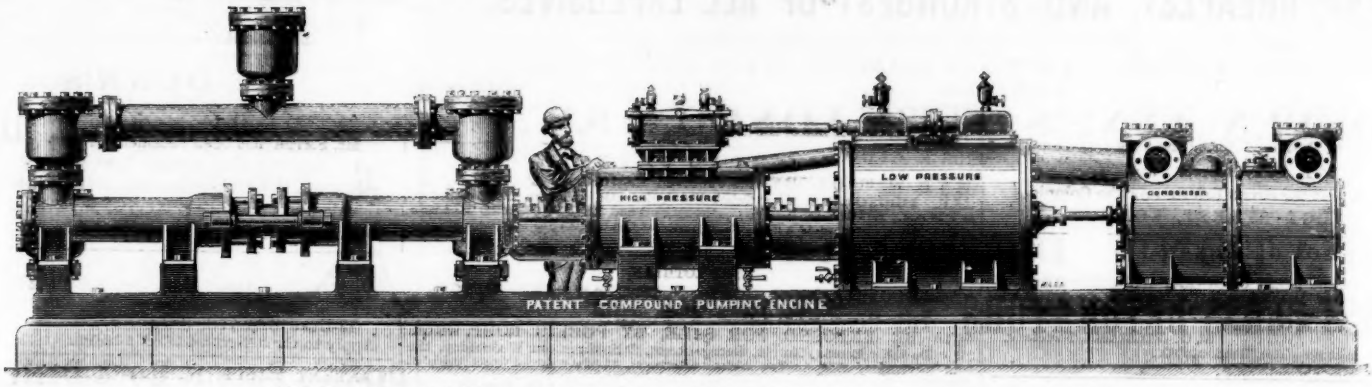

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Diameter of High-pressure Cylinder.....In.	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
Ditto of Low-pressure Cylinder .....In.	14	14	14	18	18	18	18	21	21	21	21	24	24	24	24
Ditto of Water Cylinder .....In.	4	5	6	5	6	7	8	6	7	8	10	7	8	10	12
Length of stroke .....In.	24	24	24	24	24	24	24	24	24	24	24	36	36	36	36
Gallons per hour approximate	3900	6100	8800	6100	8800	12,000	15,650	8,800	12,000	15,650	24,450	12,000	15,650	24,450	35,225
Height in feet water can be raised with 40 lbs. pressure per square inch in cylinder ..... Non-condensing...	360	330	160	360	250	184	140	360	264	202	130	360	275	175	122
Ditto ditto ditto—with Holman's Condenser...	480	307	213	480	333	245	187	480	352	269	173	480	367	234	162
Ditto ditto ditto—with Air-pump Condenser...	600	384	267	600	417	306	335	600	440	337	216	600	459	293	203

CONTINUED.

Diameter of High-pressure Cylinder .....In.	16	16	16	16	18	18	18	18	21	21	21	24	24	24	30	30
Ditto of Low-pressure Cylinder .....In.	28	28	28	28	32	32	32	32	36	36	36	42	42	42	52	52
Ditto of Water Cylinder .....In.	8	10	12	14	8	10	12	14	10	12	14	10	12	14	12	14
Length of stroke .....In.	36	36	36	36	48	48	48	48	48	48	48	48	48	48	48	48
Gallons per hour approximate	15,650	24,450	35,225	47,950	13,650	24,450	35,225	47,950	24,450	35,225	47,950	24,450	35,225	47,050	35,225	47,000
Height in feet water can be raised with 40 lbs. pressure per square inch in cylinder ..... Non-condensing..	360	230	160	118	456	292	202	149	397	276	202	518	360	264	562	
Ditto ditto ditto—with Holman's Condenser...	480	307	213	154	603	389	269	198	528	363	269	691	480	352	750	
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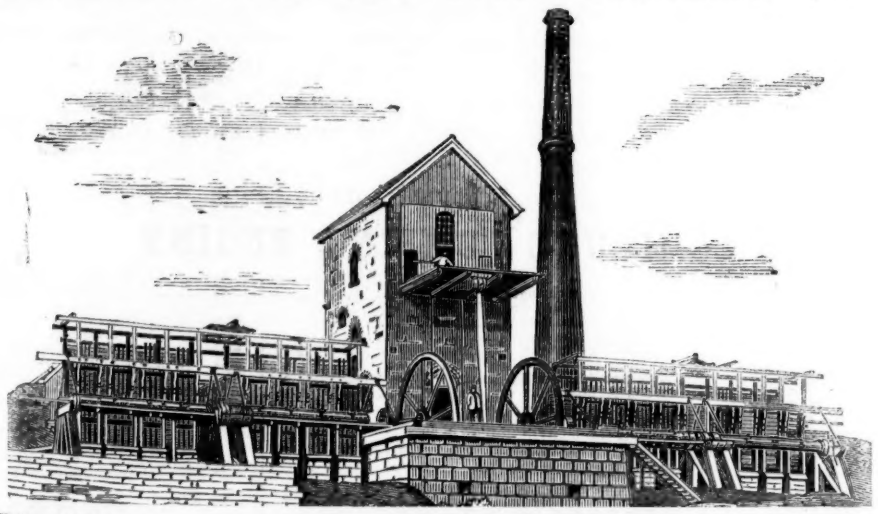

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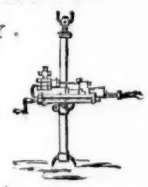

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3939	Blue Hills, *t, c*, St. Agnes	4 6	6... 4 ...	3½ 4	... 0 2 0	0... 0 2 0	...Sept. 1880
10000	Caron *t*, Cardigan*	2 0	0... 2 ...	1½ 2	... 0 4 0	0... 0 2 0	...Oct. 1878
1000	Carn Brea, *c, t*, Illogan†	56 7	6... 85 ...	80 85	...308 0 0	... 1 0 0	...Feb. 1874
10240	Devon Gt. Consols, *c, s*, Tavistock*†	1 0	0... 12½...	11½ 12	...112 1 0	... 0 8 0	...Sept. 1880
4296	Dolcoath, *c, t*, Camborne	10 14	10... 58 ...	56 58	...113 11 3	... 1 0 0	...Sept. 1880
30000	East Craven Moor,* *l*, Pateley Bdg.	1 0	0... 1 ...	¾ 1	... 0 0 6	.. 0 0 6	...Aug. 1880
6400	East Pool, *t, c*, Illogan	0 9	8... 38½...	36 37	... 20 17 9	... 1 2 6	...Sept. 1880
12500	Frongoch,* *l*, Cardigan (11000 sh.iss.)	2 0	0... 4¼...	4¼ 4¾	... 0 2 0	... 0 2 0	...June 1880
40000	Glasg. Car., *c** [30000sh. £1 pd., 10000 15s. pd.]	1½...	1 1½	... 0 13 10	... 0 0 6	...Aug 1878	
8500	Gorsedd and Merllyn Con., *t*, Flint.	2 10	0... 3 ...	2½ 3	... 0 5 0	... 0 5 0	...Aug. 1877
15000	Great Laxey, *t*, Isle of Man*†	4 0	0...18 xd...	17 18	... 25 8 0	... 0 6 0	...Oct. 1880
6400	Green Hurth, *l*, Durham*	0 6	0... 8½...	8¼ 8½	... 2 14 0	... 0 4 0	...Oct. 1880
20000	Grogwinion, *l*, Cardigan*	2 0	0... 3½...	3 3½	... 0 16 4	... 0 1 6	...July 1880
2800	Isle of Man, *l*, Isle of Man*	25 0	0... — ...		... 83 5 0	... 1 1 0	...Sept. 1880
20000	Leadhills,* Lanarkshire	6 0	0... 3 ...	2½ 3	... 0 15 0	... 0 3 0	...Mar. 1878
400	Lieburne,* *l*, Cardiganshire	18 15	0... — ...		...604 10 0	... 2 0 0	...Oct. 1880
10000	Mellanear, *c*, Hayle*	2 6	0... 5¼...	4¾ 5	... 1 1 0	... 0 2 6	...Nov. 1880
9000	Minera Mining Co., *l*, Wrexham*...	5 0	0... 11½...	10½ 11½	... 68 19 2	... 0 2 0	...Oct. 1880
20000	Mining Co. of Ireland, *ci, c, l**	7 0	0... 3¾...	3 3¼	... 24 3 0	... 0 2 6	...Jan. 1880
8000	Mona,* *c*, Anglesea	5 0	0... 16 ...	15 15½	... 0 10 0	... 0 10 0	...July 1880
5328	North Busy, *t, c*, Blackwater	0 5	8... 3¼...	2 2½	... 0 3 4	... 0 0 10	...Oct. 1878
11829	North Hendre, *l*, Wales	2 10	0... 5½...	4½ 5	... 3 10 0	... 0 7 6	...Mar. 1880
8063	Ditto	1 0	0... — ...		... 0 7 0	... 0 3 0	...Mar. 1880
5000	Penhalls, *t*, St. Agnes‡	3 17	6... 2½...	1¾ 2	... 3 15 6	... 0 2 0	...Sept. 1880
6000	Pennant, *l, bar*, North Wales*	5 0	0... 3½...	3 3½	... 0 10 0	... 0 5 0	...Mar. 1878
12000	Phœnix United, *t, c*, Link.	5 10	3... 3½...	3 3½	... 3 2 6	... 0 2 6	...Mar. 1880
18000	Pr. Patrick,* *s-l*, (als.12000pf.10 p.c)	1 0	0... — ...		... 0 18 6	... 0 2 0	...July 1880
10000	Red Rock,* *l*, Cardigan	2 0	0... 2 ...	1½ 2	... 0 4 0	... 0 2 0	...Jan. 1878
12000	Roman Gravels, *l*, Salop*	7 10	0... 9¾...	9½ 10	... 8 1 0	... 0 5 0	...Apr. 1880
4000	Rhydalun,* *l*, Wales	10 0	0... — ...		... 0 5 0	... 0 5 0	...Feb. 1880
512	South Caradon, *c*, St. Cleer†	1 5	0... 60 ...	60 65	...749 0 0	... 1 0 0	...July 1880
6123	South Condurrow, *t, c*, Camborne†...	6 5	6... 11½...	10½ 11	... 7 12 0	... 0 10 0	...Aug. 1880
9000	South Darren, *l*, Cardigan*	1 10	0... 2¾...	2¼ 2¾	... 0 4 0	... 0 2 0	...Apr. 1880
4500	South Wheal Frances, *t*, Illogan†...	7 12	4... 14¼...	12 13	... 40 15 6	... 0 10 0	...July 1880
12000	Tankerville, *l*, Salop*†	6 0	0... 2¾...	2¾ 3¼	... 4 17 6	... 0 5 0	...Jan. 1877
6000	Tincroft, *c, t*, Pool, Illogan†§	11 10	0... 17 ...	16 17	... 50 8 6	... 0 5 0	...May 1877
15000	Van, *l*, Llanidloes*	4 5	0... 19 ...	17 18	... 24 18 0	... 0 7 6	...July 1880
3000	West Chiverton, *l*, Perranzabuloe†§	20 5	0... — ¾...	1 1¼	... 55 10 0	... 0 10 0	...Feb. 1878
512	West Tolgus, *c*, Redruth	95 10	0... 55 ...	50 55	... 33 0 0	... 1 0 0	...Jan. 1879
1200	West Wheal Seton, *c*, Camborne†§...	25 10	0... 19 ...	17 18	...223 0 0	... 0 7 6	...Apr. 1878
6000	West Basset, *c*, Illogan†	7 0	4... 17½...	16 17	... 26 17 0	... 0 5 0	...Oct. 1880
12000	Wheal Crebor, *c*, Tavistock	2 4	0... 4½...	5 5½	... 0 6 3	... 0 2 6	...July 1880
1024	Wheal Eliza Consols, *t*, St. Austell..	18 0	0... — ...		... 42 10 0	... 8 0 0	...Aug. 1880
4295	Wheal Kitty, *t*, St. Agnes	5 4	6... 4¾...	4½ 5	... 12 17 0	... 0 2 6	...Sept. 1880
3000	Wheal Peevor, *t*, Redruth	7 11	0... 29 ...	28 29	... 6 8 6	... 1 2 6	...Sept. 1880

FOREIGN DIVIDEND MINES.

35500	Alamillos, *l*, Spain*†	2 0	0... 1½...	1 1⅛	... 2 2 0	... 0 1 3	...Sept. 1880
130000	Almada and Tirito Consol., *s*†	1 0	0... ½...	¼ ½	... 0 6 3	... 0 1 0	...May 1876
20000	Australian, *c*, South Australia†	7 7	6... 1¾...	1½ 1¾	... 1 5 6	... 0 2 0	...Aug. 1880
20000	Cape Copper Mining,*† South Africa	7 0	0.. 42 ...40½	41½...	39 7 6	... 1 0 0	...Sept. 1880
35000	Cesana Sulph. Co., Romagna, Italy*	10 0	0... — ...		... 1 1 0	... 0 1 0	...Aug. 1879
10000	Copiapo, *c*, Chili* (£20 shares)	17 0	0... 9½...	9¼ 10½	... 7 16 5	... 0 5 0	...July 1880
23500	Eberhardt and Aurora, *s*, Nevada*†	10 0	0... 2¾...	1½ 2	... 1 8 0	... 0 3 0	...Dec. 1877
70000	English & Australian,*† *c*, S. Aust...	2 10	0... 1¾...	1½ 1¾	... 2 18 9	... 0 1 0	...Mar. 1880
25000	Fortuna, *l*, Spain*†	2 0	0... 6 ...	5 6	... 7 15 5	... 0 4 0	...Sept. 1880
55000	Frontino & Bolivia, *g*, New Gran.*†	2 0	0... 4 ...	4 4½	... 0 6 0	... J 1 0	...Sept. 1880
15000	Linares, *l*, Spain*†	3 0	0... 6½...	6 6¼	... 18 10 10	... 0 8 0	...Sept. 1880
66000	New Quebrada, *c*, Venezuela	5 0	0... 4½...	5 5¼	... 0 2 6	... 0 2 6	...July 1880
25000	Pitangui,* *g*, Brazil (in. 6000 £1 pd)..	0 10	0... 3½...	3 3¼	... 0 1 0	... 0 1 0	...Sept. 1880
10000	Pontgibaud, *s-l*, France†	20 0	0... 20 ...	18 20	... 27 17 6	... 0 10 0	...Dec. 1879
100000	Port Phillip, *g*, Clunes*†(£2 shares)	1 0	0... — ⅝...	⅝ ⅝	... 1 13 4	... 0 1 4	...Mar. 1880
54000	Richmond Consol., *s*, Nevada*†...	5 0	0... 15¾...	15¼ 15¾	... 9 11 6	... 0 0 10	...Aug. 1880
1358880	Rio Tinto,*c, Sp.Coup.Bds.,Huelva.	100 0	0... 96 ...	95 96	... 5 per cent.		...July 1880
—	Do, Mort. Bnds. English 5 p.c. Scrip	—	... 92 ...	91½ 92½	... 5 per cent.		...July 1880
225000	Ditto, shares	10 0	0... 17 ...	16 16½	... 0 18 0	... 0 8 0	...Nov. 1880
40000	Santa Barbara,* *g*, Brazil	0 10	0... 2½...	1¾ 2	... 0 10 9	... 0 2 0	...Apr. 1880
120000	Scottish-Australian Mining Co.*†	1 0	0... 2½...	2½ 2¾	... 15 p. cent.		...May 1880
80000	Ditto, New	0 10	0... 1¼...	1¼ 1½	... 15 p. cent.		...May 1880
50000	Sentein,* *s-l, bl*, Ariège, France	1 0	0... — ...		... 0 2 0	... 0 2 0	...Jan. 1880
22500	Sierra Buttes, *g*, California*†	2 0	0... 1½...	1½ 1¾	... 2 1 6	... 0 1 0	...Oct. 1880
40625	Ditto, Plumas Eureka	2 0	0... 2¾...	1¾ 1¾	... 2 10 0	... 0 3 0	...Oct. 1880
253000	St. John del Rey*†(£5 Stock and multiples dealt in)...			190 200	...12½ p.c. for half-year, June 1880		
20000	Tolima,* *g, s*, Colombia	5 0	0... — ...		... 1 7 3	... 0 4 3	...Aug. 1880
25000	Victoria* (London), *g*, Australia	1 0	0... — ...		... 0 13 1½	... 0 0 7½	...June 1879
15000	Western Andes, *s*, Colombia	5 0	0... — ...		... 2 18 0	... 0 2 6	...Aug. 1880
2100	W. Prussian (5500 pref. sh. £10 pd.)	10 0	0... 10½...	10 10½	... 3 6 0	... 0 8 0	...Oct. 1880

§ Have made calls since last dividend was paid.

NON-DIVIDEND BRITISH MINES.

Shares.		Paid.	Last wk.	Clos pr.
25600	Aberllyn,* *l, bl*, Carnarvon	1 0	0... 1 ...	⅞ 1
12000	Assheton, *l*, Carnarvonshire*	5 0	0... ¾...	½ ¾
11583	Bedford Unit.,* *c*, Tavis [£1 liab.)...	0 6	0... 1 ...	⅞ 1
25000	Belowda*, *t*, Roche	1 0	0... 1½...	1 1½
600	Bendigaid, *s-l*, Wales	10 0	0... — ...	
30000	Bettws-y-Coed,* *l* (20000 sh. issued)	1 0	0... — ...	
8000	Bhen Caelan,* *l*, Cardigan	3 0	0... — ...	
30000	Bodidris,* *l, bl*, Denbighshire	1 0	0... 1¼...	1¼ 1½
800	Botallack, *t, c*, St. Just‡	31 10	0... — ...	
10000	British, *s-l*, Wrexham	2 0	0... 2¼...	2 2¼
20000	Bwlch United,* *l*, Cardigan	1 0	0... 3 ...	2¾ 3
50000	Cambrian,* *s-l, c*, Cardiganshire	2 0	0... 2½...	2¼ 2½
6000	Carn Camborne, *t, c*, Camborne	0 2	6... 3¼...	3 3⅛
20000	Carnarvon,* *c*, Carnarvonshire	1 0	0... 1 ...	¾ 1
5120	Clementina, *l*, Llanrwst*	1 0	0... 1 ...	½ 1
25000	Coed Mawr Pool,* *l*, Carnarvon	2 0	0... — ...	
6000	Combmartin, *s-l*, North Devon	1 0	0... ½...	⅜ ½
2450	Cook's Kitchen, *t*, Illogan†‡	29 4	9... 12 ...	10½ 11½
15500	Court Grange United*, *s-l*	1 0	0... ½...	¼ ½
6400	Crook Burn,* *l*, Cumberland	0 5	0... ⅜...	¼ ⅜
14000	Crosswood Mining Lands, *l**	1 0	0... 1½...	1 1½
15000	Cwm Dwyfor,* *c, s-l*, Carnarvon	1 0	0... — ...	
20000	Deep Level, *l*, Flintshire	1 0	0... 1¼...	1 1¼
1230	D'Eresby Consols, *l, bl*, Carnarvon..	10 0	0... — ...	
1536	D'Eresby Mountain, *l, bl*, Llanrwst.	20 0	0... 50 ...	40 50
20000	Denbighshire Consolidated,* *l*	3 0	0... 3 ...	2 3
12000	Derwent,* *l*, Durham	4 0	0... 2¾...	2½ 2¾
1000009	Devon,* *c, bl*, Tavistk. (125000 iss.)	0 1	0...1s.9d...	1s. 8d.
12000	Devon Great United* (2*l.*)	1 0	0... 2½...	2 2¼
20000	Devonshire,* *s-l*, Lydford	1 0	0... 1¼...	1 1¼
10000	Dubby Syke, *l*, Durham*	0 17	6... ½...	⅜ ½
6000	East Botallack, *t*, St. Just	0 2	0... 1¾...	1½ 1¾
6144	East Caradon, *c*, St. Cleer‡	3 9	6... 1½...	1½ 2
4000	East Chiverton, *l*, Perranzabuloe ...	9 14	9... 1⅞...	1¾ 1⅞
12000	East Crebor, *c*, Tavistock	0 7	6... 1½...	1 1¼
15000	East Devon Cons.,* *c*, Buckfastligh.	2 0	0... 2⅞...	2⅞ 3⅛
21000	East Roman Gravels,* *l*, Salop	0 10	0... ⅞...	⅞ 1
18000	East Van, *l*, Llanidloes*	5 0	0... 2½...	2 2¼
4096	East Wheal Buller, *t, c*, Gwennap..	0 10	0... 1¼...	1¼ 1½
1114	East Wheal Lovell, *t*, Helston	13 8	6... 1 ...	½ 1
10000	Edgcumbe, *mn*, Cornwall	1 0	0... 1½...	1¼ 1½
30000	Flintshire Great Consols*	1 0	0... — ...	
10000	Fortescue,* *var*, St. Stephens	1 0	0... 2½...	2¼ 2½
12000	Gawton,* *c*, Tavistock (2*l.* shares)..	1 12	6... 1½...	⅞ 1⅛
14000	Glenroy,* *s-l*, Isle of Man	4 0	0... ⅜...	⅜ ⅜
20000	Great Dyliffe* (10000 sh. issued)	1 0	0... 1 ...	¾ 1
20000	Gt. E. Foxdale, *l*, I. of Man (£1 sh.)	0 18	0... — ...	
12000	Great Holway,* *l*, Flintshire	5 0	0... 5 ...	4½ 5
20000	Griffin,* *s-l*, Carnarvon	1 0	0... — ...	
9380	Gunnislake (Clitters), *t, c*‡	5 5	0... 4¼...	3¾ 4
10000	Gwern-y-Mynydd,* *s-l*, Flintshire..	4 0	0... — ...	
10000	Harehope Gill,* *l*, Durham (£1 sh.)	0 5	0... — ...	
1200	Hartington Moor,* *carb. l*, Derby...	1 1	0... 1½...	1 1½
6400	Harwood,* *l*, Durham	0 15	0... 1 ...	1
12000	Herodsfoot, *l*, near Liskeard†	0 8	9... 1¾...	1 1¼
18000	Hingston Down, *c*, Calstock*†	0 7	0... 1½...	1¼ 1½
6000	Killifreth, *t*, Chacewater	3 15	0... ⅜...	¼ ⅜
15000	Lady Ann, *s-l*, Llanarmon	1 0	0... 1¼...	1 1¼
30000	Lady Ashburton,* *s*, Callington	1 0	0... 1⅛...	¾ ⅞
15000	Lady Bertha,* *c*, Tavistock	0 12	6... 1½...	1¼ 1½
12000	Ladywell,* *l*, Salop (12000 prf. also)	2 10	0... — ...	
5000	Lead Era,* *l*, Mold	2 10	0... — ...	
2500	Levant, *c, t*, St. Just	11 0	0... 15 ...	14 15
10000	Lomax, *s-l*, Helston	1 0	0... 1½...	1 1¼
5120	Lovell, *t*, Wendron	0 16	0... 1¼...	1¼ 1¾
15000	Llandegla,* *l*, Llanarmon	1 0	0... 1¼...	1 1¼
30000	Llanrwst,* *l*, Carnarvon	2 0	0... — ...	
7500	Ditto, 10 per cent. pref	2 0	0... — ...	
9000	Marke Valley, *c*, Linkinhorne‡	5 13	6... 2 ...	1¾ 2
1800	Mawston,* *l*, South Wales	1 0	0... 1½...	1 1½
6000	Medlyn Moor, *t*, Wendron	3 15	10... — ...	
28000	Mid-Devon,* *c* (& 17000, 3s. 4d. pd.)	0 6	8... ⅜...	¼ ⅜
3000	Mineral Corporation of Gt. Britain*	10 0	0... — ...	
20000	Mostyn Consols,* *s-l*, Flint	1 0	0... 1⅛...	⅞ 1⅛
10000	Mynydd Gorddu, *l*, Cardigan*	3 12	6... 4 ...	3¼ 4
25000	Moray Firth (18000 issued)	2 0	0... 4 ...	3¼ 4
12000	Morfa Du, *s, g, s*, Anglesea*	1 0	0... 1½...	⅞ 1½
6144	Mount Carbis, *t, c*, Redruth	0 10	0... 2¼...	2¼ 3
4678	New Bronfloyd,* *s-l*, Cardig.(£5 sh.)	3 16	0... — ...	
12000	New Cathedral,* *c, t*, Gwennap	1 0	0... — ...	
2400	New Cook's Kitchen, *t*, Illogan	7 14	0... 7½...	7 7½
8005	New Dolcoath, *t, c*, Camborne*	3 0	0... — ...	

NON-DIVIDEND MINES—*continued.*

Shares.		Paid.	Last wk.	Clos pr.
6000	New Kitty, *t*, St. Agnes	0 3	0...	
10000	New Llanfair, *l*, Carmarthen	1 0	0...	
12000	New Penrose,* *t, c*, Helston (1*l.* sh).	0 5	0...	
3500	New Tincroft,* *t*, Lelant	6 0	0...	
6000	New West Caradon, *c*, Liskeard	0 2	6...	
3000	New Wheal Peevor, *t*, Redruth	10 0	0...	
35000	New Wye Valley, *l*, Montgomery.*	1 0	0...	
10000	N. D'Eresby Mount.,* *l, bl*, Carnarv.	1 0	0...	
12000	North Herodsfoot, *l*, Liskeard	0 5	0...	
2000	North Levant, *t, c*, St. Just‡	13 6	0...	
50000	North Molton,* *c, mn, s*, Devon	1 0	0...	
6000	North Penstruthal, *t, c*, Gwennap...	1 0	0...	
2936	North Treskerby, *c*, St. Agnes	8 17	10...	
8000	Northern,* *l*, Durham	1 0	0...	
12000	Pandora,* *l*, Carnarvon	2 0	0...	
11612	Pant-y-Mwyn,* *l*, Mold	2 0	0...	
6000	Parracombe, *s-l*, Devon	0 5	0...	
45000	Parys Corporation,* *c*, Anglesea	1 0	0...	
7500	Pateley Bridge, *l*, Yorkshire	1 0	0...	
15000	Ditto (also 7500 sh. not issued)	1 0	0...	
6000	Pedn-an-drea, *t*, Redruth	1 0	0...	
600	Pendarves United, *c*, Camborne	1 0	0...	
12000	Pen-yr-Orsedd,* *l*, Flintshire	8 0	0...	
12000	Plynlimmon, *l*, Llanidloes*	1 0	0...	
10000	Polrose, *t*, Cornwall	2 0	0...	
10000	Port Nigel,* *s-l*, Carnarvonshire	0 10	0...	
12000	Prince of Wales, *c, s*, Calstock	2 0	0...	
50000	So. Cambrian,* *l*, Cardiganshire	0 7	6...	
30000	South d'Eresby Mountain,* *l*	1 0	0...	
35000	So. Devon Unit.,* *c*, Buckfastleigh.	1 0	0...	
6000	South Penstruthal, *t, c*, Gwennap...	1 0	0...	
6000	South Roskear, *t, c*, Camborne	0 15	0...	
6000	South Tolcarne, *t, c*, Camborne	8 5	0...	
40000	South Wheal Crebor*, *c*, Tavistock..	3 19	0...	
2043	South Wheal Crofty, *c*, Illogan	1 0	0...	
4000	St. Just United, Cornwall	17 2	0...	
30000	Talybont,* *s-l*, Cardiganshire	2 10	0...	
40000	Tamar, *s-l*, Bearalston*	1 0	0...	
6400	Teesdale,* *l*, Durham (pref.)	1 0	0...	
10000	Temple,* *l*, Cardigan	1 0	0...	
5000	Treleigh Wood, *t*, Redruth	1 0	0...	
12000	Trevince Consols, *t, c*, Gwennap	8 1	0...	
6000	Trugo, *c*, St. Columb	0 5	0...	
640	Truro,* *l*, Nerquis, Flintshire	0 4	0...	
10000	Tyn-y-Fron,* *l*, Cardiganshire	10 0	0...	
11000	Un. Van & Glyn,* *l*, (& 41500 other sh)	1 0	0...	
1000	Vaughan,* *l*, Cardiganshire	2 0	0...	
12000	West Assheton, *l*, Carnarvon	10 0	0...	
6000	West Caradon, *c*, St. Cleer	1 0	0...	
3000	W. Craven Moor, *l*, Pateley Bdge*	0 6	0...	
10240	West Devon Consols, *c*, Calstock	10 0	0...	
12000	West Holway,* *l*, Flintshire	1 0	0...	
6000	West Kitty, *t*, St. Agnes	1 0	0...	
20000	W. Lisburne,* *l*, (1*l.* sh.) Cardigan..	0 7	0...	
5000	West Mary Ann,* *l*, Menheniot	1 0	0...	
3000	Westminster United, Llanarmon	1 2	6...	
20000	West Pateley Bridge,* *l*, Yorkshire.	5 0	0...	
12000	West Phœnix, *t, c*, Caradon	1 0	0...	
5190	West Poldice, St. Day‡	0 6	8...	
10000	West Vor, *t, c, ars-m*, Breage	5 5	0...	
2048	West Wheal Frances, *t*, Illogan‡	2 0	0...	
3000	West Wheal Peevor, *t*, Redruth	29 6	3...	
1000	West Wheal Towan, *c, t*, Illogan	1 12	6...	
12000	West Wye Valley,* *l*, Montgomery.	25 0	0...	
6000	Wheal Agar, *c*, Illogan‡	3 0	0...	
6144	Wheal Basset, *c*, Illogan‡	14 0	0...	
12000	Wheal Coates United,* *t*, St. Agnes	34 2	6...	
2585	W.Comford, & No. Trea.,*c*, Gwennap	0 12	6...	
15000	Wheal George,*‡*l, bl*, Carnarvon	2 2	0...	
6000	Wheal Grenville, *t*, Camborne	1 0	0...	
12288	Wheal Jane, *t*, Kea‡	5 0	0...	
12000	Wheal Jewell, *c*, St. Hilary	1 5	8...	
25000	Wh. Hony and Trelawny, *s-l*, Lisk.	0 11	0...	
2000	Wheal Owles, *t*, St. Just‡	2 0	0...	
6000	Wh. Prussia, & Cardrew, *t, c*, Rdrth	7 3	0...	
12000	Wheal Russell, *c*, Tavistock	1 0	0...	
6000	Wheal Sisters, *t*, Lelant	2 1	6...	
4096	Wheal Uny, *t, c*, Redruth	2 15	0...	
24000	Ystwith,* *l*, Cardigan	15 16	0...	

bl, blende; *c*, copper; *g*, gold; *l*, lead; *s*, silver; *sl*, slate; *s-l*, silver-lead; *t*, tin; *z*, zinc; *i*, iron; *a*, arsenic.
* Limited Liability Companies; † quoted on the Stock Exchange; ‡ have paid dividends.

NON-DIVIDEND FOREIGN MINES; FOREIGN AND MISCELLANEOUS STOCKS; TRAMWAYS; INSURANCE COMPANIES; GAS, IRON AND COAL, WAGON COMPANIES, &c.

NON-DIVIDEND FOREIGN MINES.

Shares.			Clos. pr.
10000	Anglo-Espana, *sul* (& 5000 sh. 10*l.*)	2 0	0...
15000	Birdseye Creek, *g*, California*	4 0	0...1⅜ 1⅝
30000	Blue Tent, *kyd*, California	5 0	0... 2 2¼
40000	Brazilian, *g*,* Brazil	1 0	0...1⅛ 1⅜
10000	Buena Ventura,* *l*, Spain (£2 sh.).	1 10	0...
15000	Canada,* *g*, Canada	1 0	0...
82500	Canadian, *c, sul*,* Canada	4 0	0...1⅛ 1¼
34433	Cedar Creek, *g*, California*	5 0	0...
120000	Chontales, *g, s*, Nicar.*† (98000 iss)	1 0	0...
150000	Colar,* *g*, Mysore	1 0	0...
75000	Colombian Hydraulic, *g*, Colombia	1 0	0...
65000	Colorado United, *s-l* Colorado*†‡..	5 0	0... 2 2¼
90000	Consolidated Mining	1 0	0... ⅜ ½
200000	Devala Moyar,* *g*, Wynaad	1 0	0...2½ 2¾
100000	Don Pedro North del Rey*	1 0	0... ⅝ ⅞
20000	English Australian, *g*, Victoria* ...	1 0	0...
100000	Exchequer, *g, s*, California*†	1 0	0... ¼ ½
100000	Frontenac,* *l*, Ontario, Canada ...	1 0	0...
10000	Hornachos,* *s-l*, Spain	10 0	0... 10
12000	Hultafall,* *l, bl*, Orebro, Sweden .	5 0	0... 2 2½
100000	Ind. Glenrock,* *g*, Wynaad (fy.pd)	1 0	0...1⅛ 1⅜
150000	Indian Mammoth,* *g*, Chulimulla.	0 5	0...
100000	Isabelle, *g, s*,* California...	1 0	0...
100000	I.X.L., *g, s*, California*	1 0	0... ¼ ½
50000	Javali, *g*, Nicaragua*	2 0	0...
50000	Kapanga,* *g*, New Zealand	1 0	0...
65000	London and California, *g*†‡	2 0	0...
7587	Lusitanian, Portugal*† (fy. pd.) ...	5 0	0...
9000	Missouri, *l*, pref (fully paid)...	10 0	0...10½ 11
135000	Mysore,* *g*, India	1 0	0...
40000	Nava de Jadraque,* *g, s*, Spain	1 0	0... ⅜ 1
100000	New Frntno & Boliv.,* *g*, Colombia	1 9	0...
100000	New Gold Run,* *kyd*, California...	1 0	0...
200000	Nouv. Monde, *g*, Venez. (en com.)	1 0	0... 1 1¼
3000	Oregon, *g*, Oregon, U.S. (pref. sh.)	4 0	0...
50000	Panulcillo, *c*, Chili*†	4 0	0... 4½ 5
80000	Pestarena United, *g*, Italy*†	3 0	0...5/16 1/16
80000	Pierrefitte* (20000 pref.	1 0	0...
25000	Placerville, *g, q*, California	2 0	0...2½ 2⅝
40000	Ravenscliff, *g*, N. Zlnd.; *c*, S. Aust.	0 10	0...
8600	Rio Grande do Sul* (and 31,000 pref.)	5 0	0...
100000	Rossa Grande, *g*, Brazil*† (£1 sh.).	1 0	0... ⅛ ¼
25300	Ruby and Dunderberg, *g*, Nevada*	10 0	0... 5½ 6
200	Ditto (10 per cent. deb. conv.)...	50 0	0...
34022	San Pedro,* *c*, Chili	1 12	6...
130000	So. Indian,* *g*, Madras (fully paid)	1 0	0...1⅝ 1⅞
100000	South-East Wynaad, *g*, India	1 0	0...1½ 1⅝
43174	United Mexican,*†‡ *s*, Mexico	29 5	3...1¾ 2¼
50000	Virneberg, *c*, Rheinbreitb., Ger.*..	2 0	0...1⅜ 1⅞
75000	Yorke Peninsula, *c*, So. Australia..	1 0	0... ¼ ½
54800	Yorke Pen., *c*, South Aust. Pref....	1 0	0... ⅞ 1½

GAS COMPANIES.

Issue.	Shares.		Pd.	Clos. pr.
5000	20	Bahia [L]	all..	16 17
3000	5	Bombay [L]	all...	6 6¼
10000	5	Ditto, New [L]	4...	½ 1 pm
29700	Stk	Brentford Consolidated	100...	152 156
14000	20	British	all...	34 36
550000	Stk	Commercial	100...	187 192
20000	20	Continental Union [L]	all...	21 22
20000	20	Do. do. New, 1869, 1872	14...	par 1 pm
10000	20	Do. do. 7 per ct. Preference	all...	24½ 25½
23406	10	European [L]	all...	20 21
94850	Stk	Gaslight and Coke, A, Ord.	100...	180 185
50000	10	Ditto, 4th issue	all...	
50000	10	Ditto, 5th issue	all...	17 18
284200	Stk	Do, 4 per cent. Deb. Stock	100...	103 105
5000	10	Hong Kong and China	all...	15 16
2800000	Stk	Imperial Continental	100...	193 197
386500	Stk	London	100...	180 185
12000	5	Malta & Mediterranean [L]	all...	2¼ 2¾
100000		Metrop. of Melbourne 6 p.c. Deb.		103 106
25000	20	Monte Video [L]	all...	16 17
10000	5	Ottoman [L]	all...	2 2½